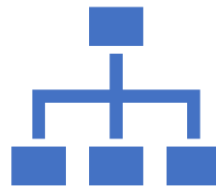


Unit 2: Creating Systems to Manage Information

Databases using Microsoft Access



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Unit 2 – Starter Questions

- What is RDBMS ?
- Types of RDBMS ?
- What is Table and Field Name ?
- What is SQL – Structure query language (Insert, Create, Join) ?
- What are the key difference between TXT / TEXT file and CSV file ?
- What is import or export ?

Content Summary:



AO1 - Demonstrate knowledge of database development terminology, standards, concepts and processes. (Pass)



AO2 - Apply knowledge and understanding of database development terminology, standards, concepts and processes to create a software product to meet a client brief. (Pass)



AO3 - Analyse information about database problems and data from test results to optimise the performance of a database solution. (Merit)

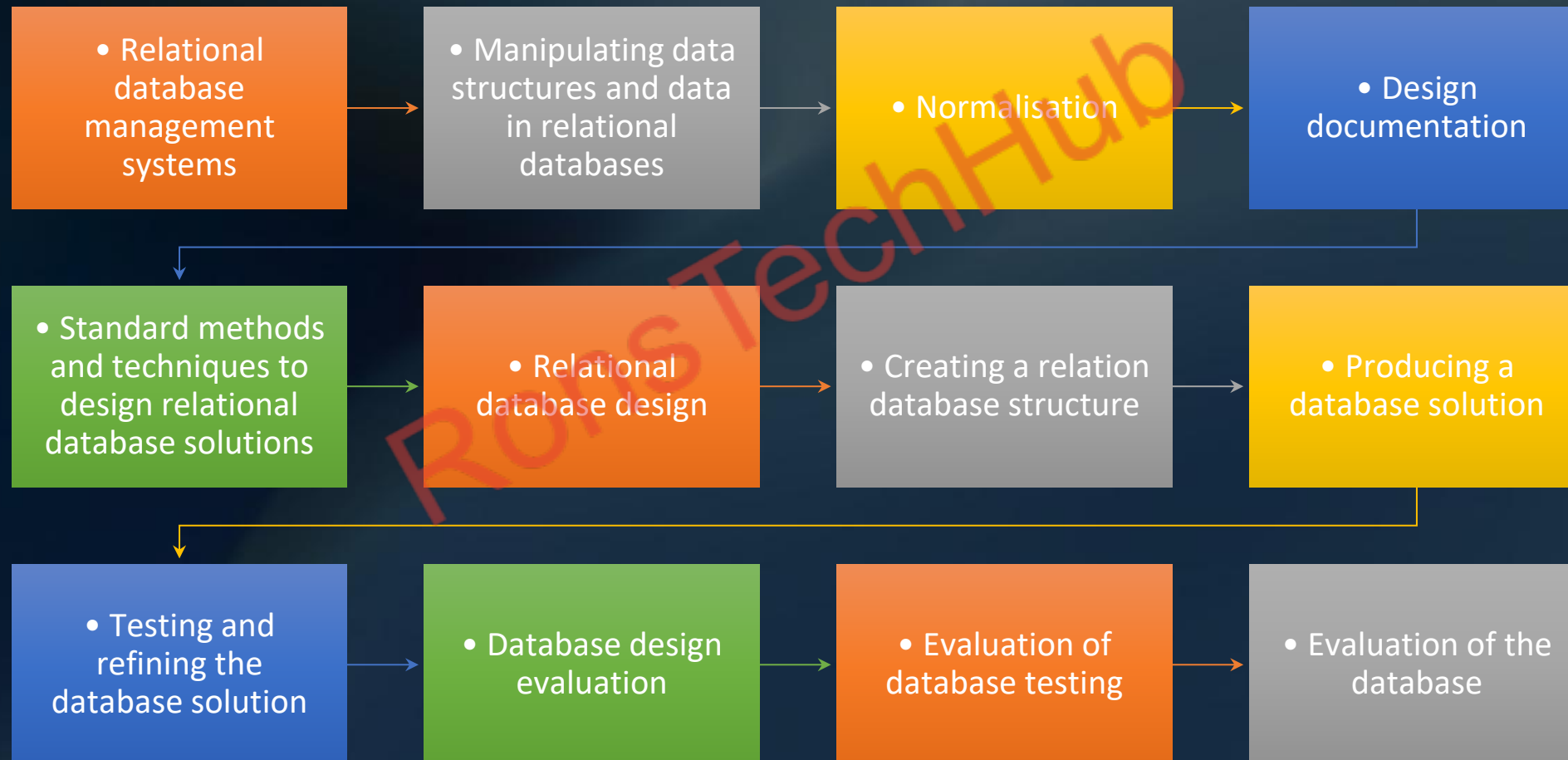


AO4 - Evaluate evidence to make informed judgements about the success of a database's design and performance. (Merit)

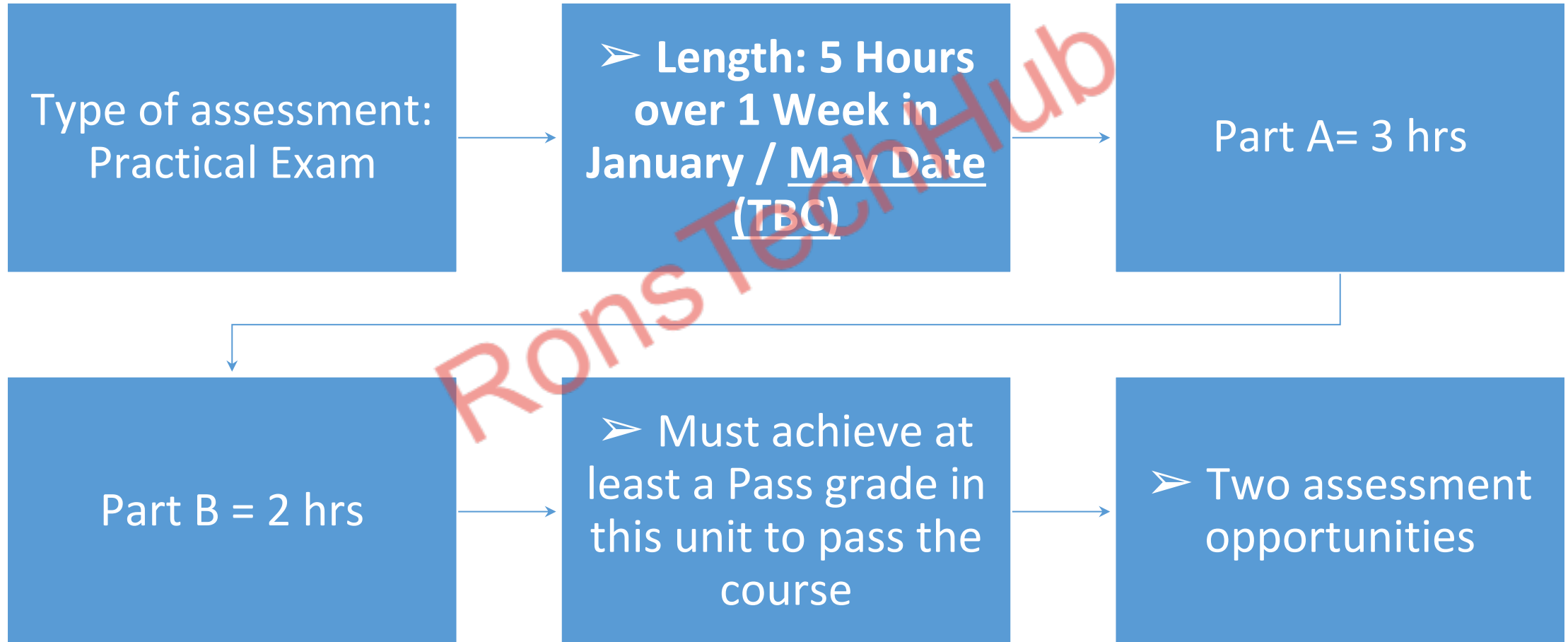


AO5 - Be able to develop a database solution to meet a client brief with appropriate justification. (Distinction)

Office 2019 (MS Access)



Assessment:



Students are expected to:

- ✓ Have 100% attendance. Let your teacher know if you are not going to be in a lesson for any reason via e-mail.
- ✓ Arrive promptly to lessons and Show positive behaviour.
- ✓ Complete coursework tasks, ensuring they meet the deadlines.
- ✓ Complete homework tasks, ensuring they meet the deadlines - 5 hours of theory or practical work a week.
- ✓ Proof read the work to check spelling and grammar.
- ✓ Ensure the presentation of all their work is suitable.
- ✓ Carry out independent study, especially with the theory units.
- ✓ Coursework, submitted electronically, with the correct layout
- ✓ Participate in group work tasks.
- ✓ Show responsibility by seeking additional help and support when necessary.
- ✓ Ensure all the relevant equipment is brought to all lessons, including memory sticks.

Independent Study

- It is not possible to achieve a Distinction* in the BTEC IT course, unless you complete work outside of the timetabled lessons.
- You have three timetabled lessons a week and you also need to spend five hours outside lessons revising for external units or completing coursework for internal units.
- In order to revise, you could make revision cards, rewrite notes from lessons or create mind maps.
- While doing this, you must ensure you identify the gaps in your knowledge. Once the gaps are identified, you need to address them. This could be using notes, revision guides or asking your teacher for support.
- When completing coursework, ensure you refer to the assessment criteria. Always complete all pass, merit and distinction criteria. Remember to stick to the deadlines, so you could fail the course.



Wider Reading

- Read around and be excited about your subject. Follow news channels and read articles to stay up to date on developments in technology and ICT and the impact this has on individuals and society.



What is a database?

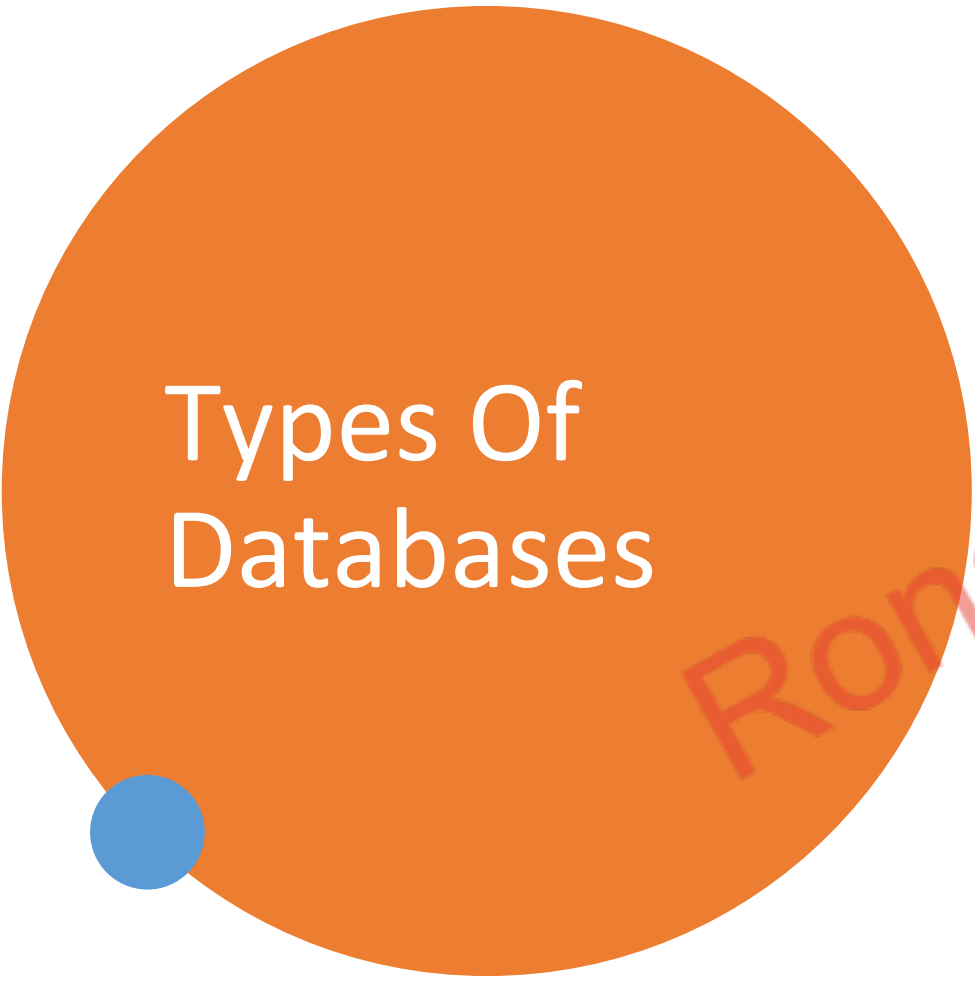
- A database is a computerised system that makes it easy to search, select and store **information**.
- Databases are used in many different places.
- What are some you can think of?
- <https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/z8yk87h>

Database Purpose



- Makes it easy to **search, select, store** and **organise** information.

- <https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/z8yk87h>

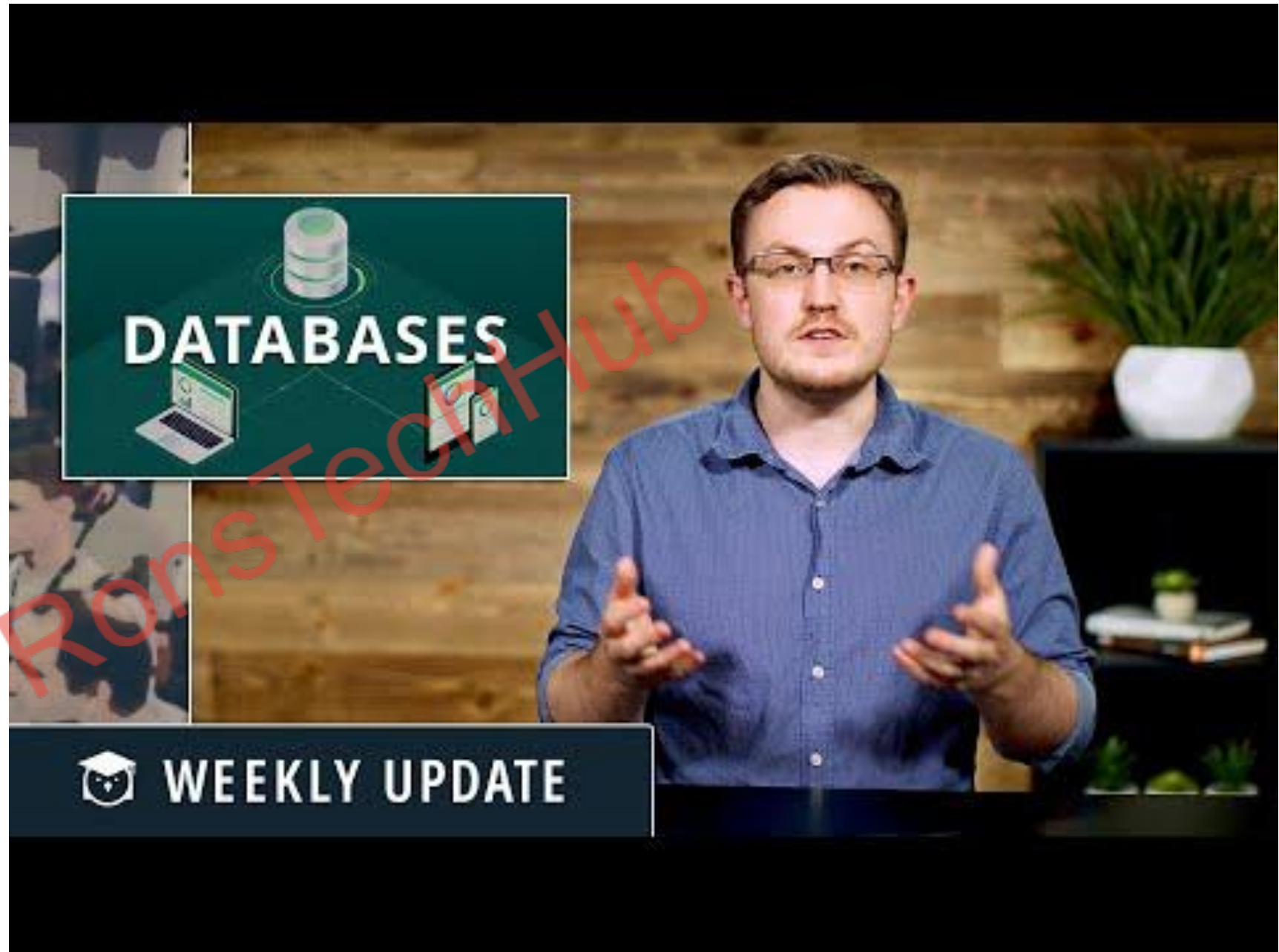


Types Of Databases

- Flat File Databases
- None Relational Databases
- Relational Databases

Databases Video

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Database Management Systems

- Common Type sare:
 - Non-Relational Databases - NoSQL
 - Relational Databases - SQL

What is SQL?



Sequenced Query Language.



Written language used only to write specific queries.



This is a powerful tool as the user can define precisely what is required in a database.



SQL is a popular query language used with many databases.

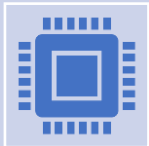
Relational Database



A single flat-file table is useful for recording a limited amount of data.



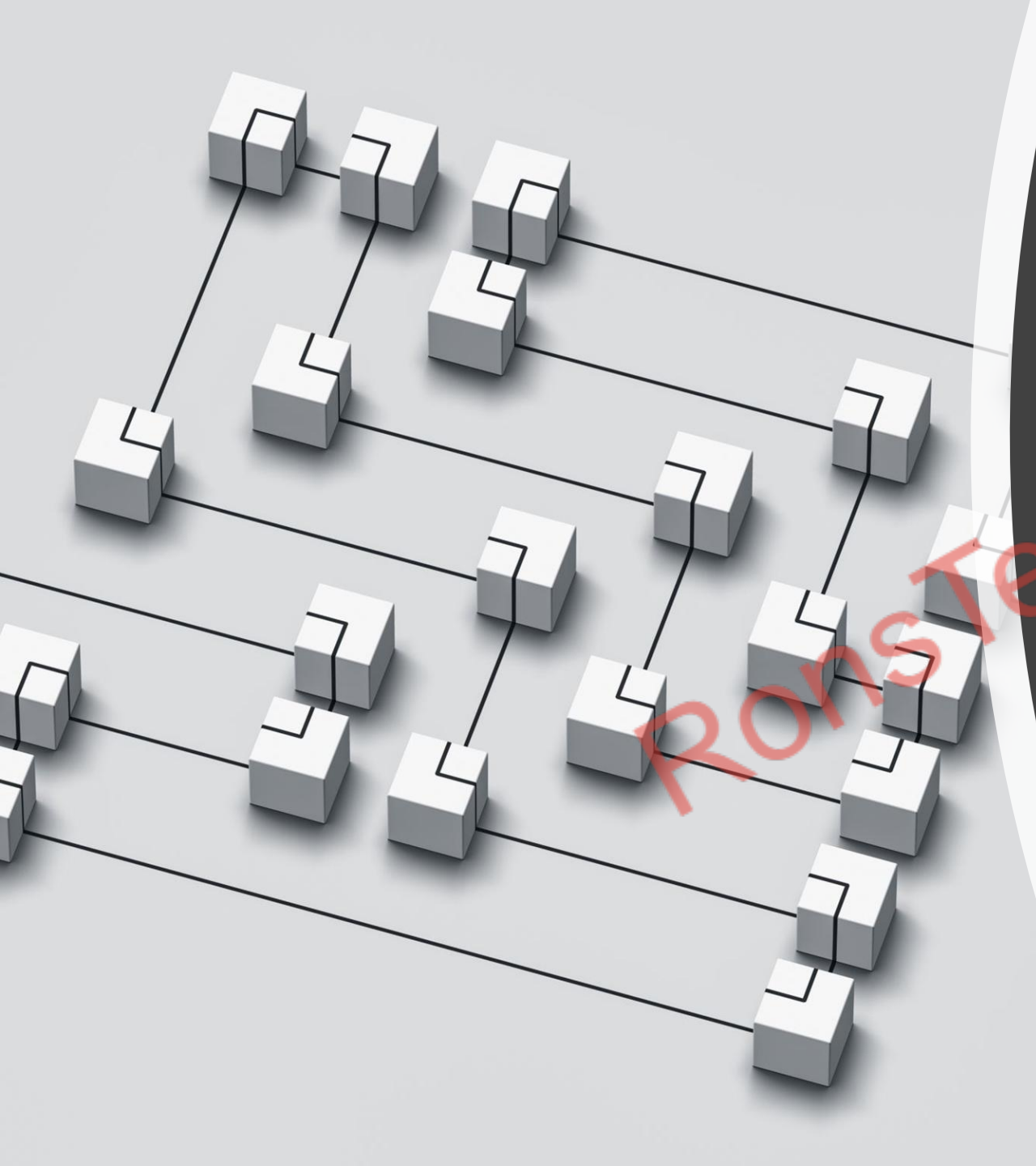
But a large flat-file database can be inefficient as it takes up more space and memory than a relational database.



It also requires new data to be added every time you enter a new record, whereas a relational database does not.

Relational Database

- Allows data to be stored in a clear, organised manner across multiple tables.
- Links, known as relationships, are formed to allow the data to be shared across the tables.





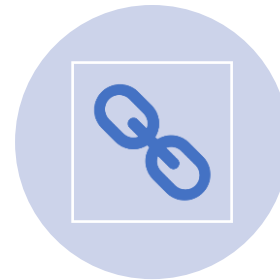
RDBMS Databases

- Relational Database Management Systems.
- Organises into related rows and columns.
- Data is stored in tables.
- Data is indexed for faster data retrieval.

Relational Database



Relational databases allow data to be stored in a clear, organised manner across multiple tables.



Links, known as relationships, are formed to allow the data to be shared across the tables.

A Relational Database

What is a Relational Database?

IBM Cloud

Benefits

Concurrency
rollback

Stored Procedures

Locking! Concurrency

Characteristics



SQL,
lock & from books;

one < many
one to one

Types Of Relational Databases



Desktop



Client/Server Based and Web Based



Open Source – MySQL

What does it mean to be opensource?



Proprietary – MS Access

What does it mean to be proprietry?

Database Structure



Tables/Entities.



Columns – "Attributes".



Rows.



Field (Access Database) - Cells (Excel Spreadsheet).

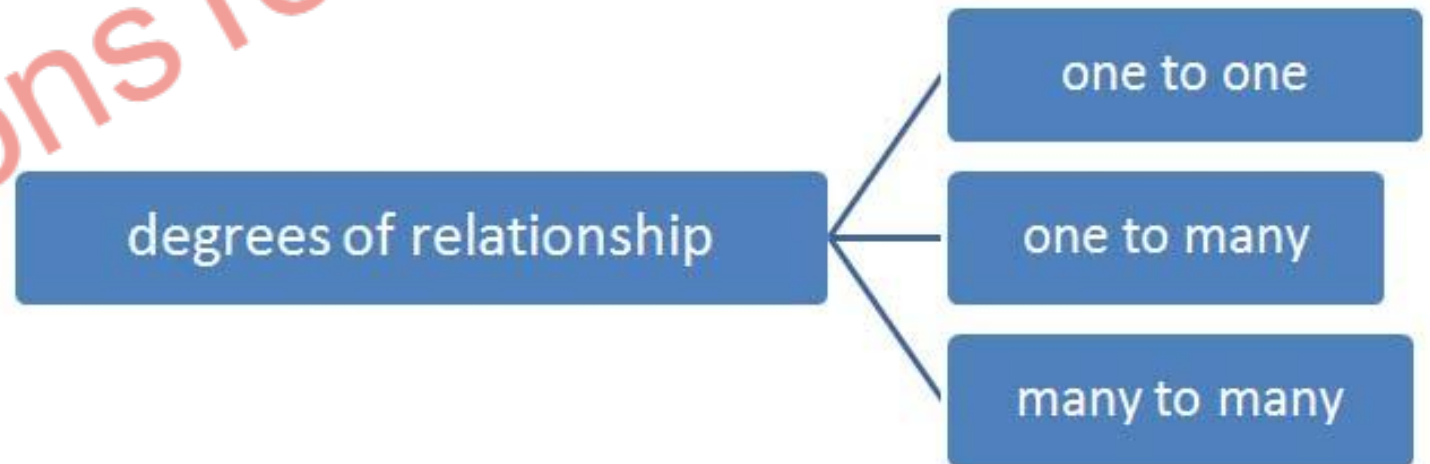
Table or Entity

- The database table is where all the data in a database is stored.
- This is what we have created ourselves in Microsoft Access.

ProductID	Category	Name
788830	Headphones	Bose QuietComfort
313096	Bluetooth Speakers	Polk BOOM
814976	Bluetooth Speakers	JBL Clip
105945	Headphones	Audio-Technica ATH
666721	Bluetooth Speakers	Jamo DS3

Cardinality

- Refers to how "unique" something in a database table is.
- Primary key is unique.
- Foreign keys are not.



R O N S

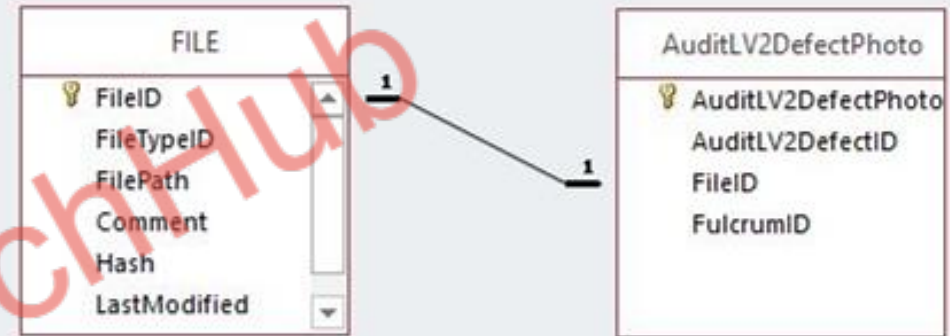
T e c h

H u b

One To One

- One record in a table is associated with one and only one record in another table.
- In a school's database, each student has only one student ID, and each student ID is assigned to only one person.

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The screenshot shows the 'Edit Relationships' dialog box in Microsoft Access. The 'Table/Query' dropdown is set to 'FILE' and the 'Related Table/Query' dropdown is set to 'AuditLV2DefectPhoto'. The 'FileID' field from the FILE table is linked to the 'FileID' field in the AuditLV2DefectPhoto table. The 'Enforce Referential Integrity' checkbox is checked, and the 'Cascade Update Related Fields' checkbox is also checked. The 'Cascade Delete Related Records' checkbox is unchecked. The 'Relationship Type' is set to 'One-To-One'. The 'OK' button is highlighted.

One To Many

- Most Common type of relationship.
- One record in an entity/table has many connections to another entity.

Creating a one-to-many relationship

Each individual patient is only allocated to one doctor

One doctor is allocated many patients.



The 'many' end of the relationship is indicated by the 'crow's foot' and/or the infinity symbol.

Database Attributes

- Attribute are the column names.
- The y axis in the database, from top to bottom.
- They describe the data to be held under that column.
- Product Name, Supplier ID, Category ID, Quantity Per User, Unit Price.

ProductID	ProductName	SupplierID	CategoryID	QuantityPerU	UnitPrice
1	Chai	1	1	10 boxes x 20 bags	18.00
2	Chang	1	1	24 - 12 oz bottles	19.00
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10.00
4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	22.00
5	Chef Anton's Gumbo Mix	2	2	36 boxes	21.35
6	Grandma's Boysenberry Spread	3	2	12 - 8 oz jars	25.00
7	Uncle Bob's Organic Dried Pears	3	7	12 - 1 lb pkgs.	30.00



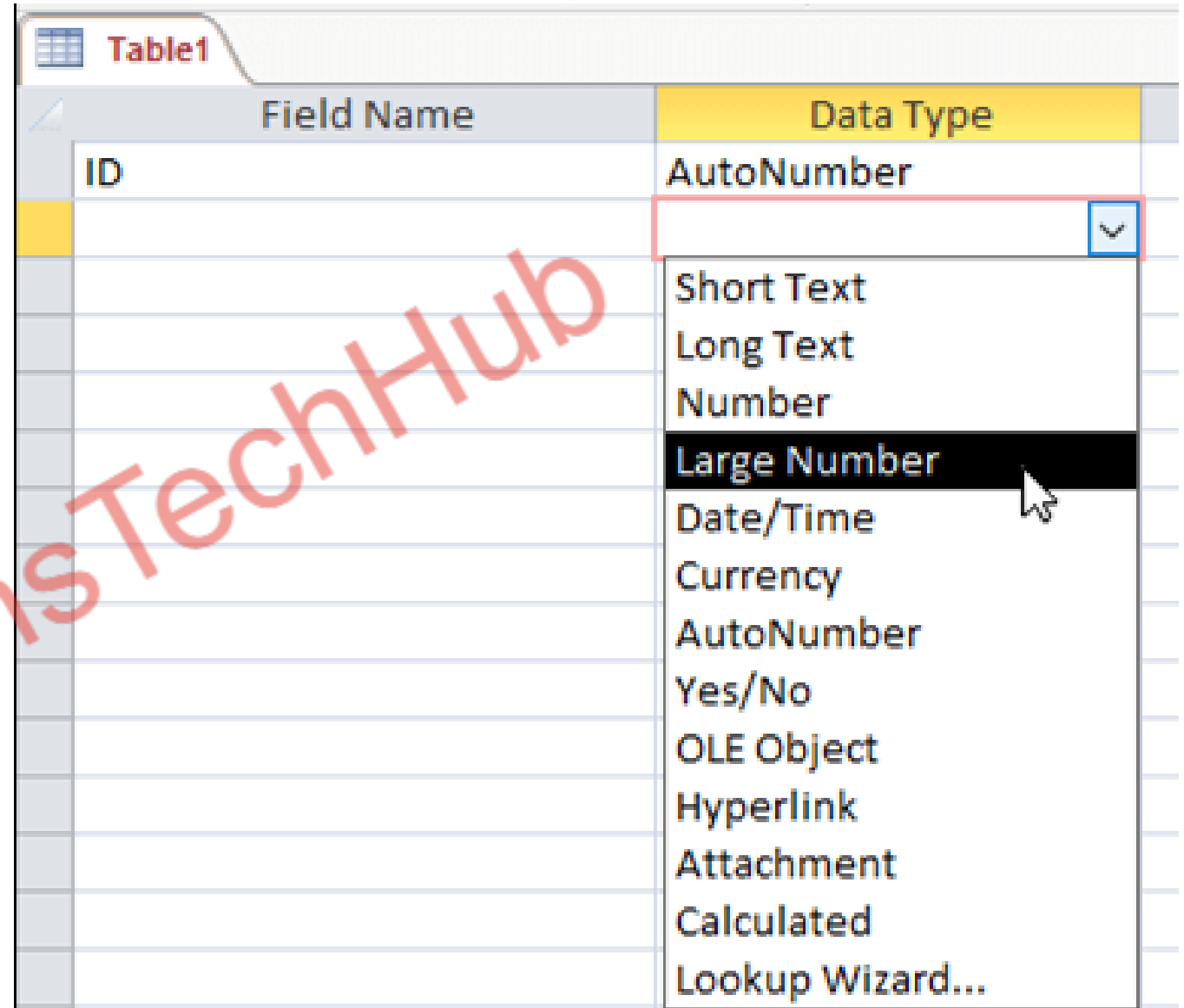
Database Domain

(Data Types In Everything Else)

The type of data that column holds.

Database Domain

If the database needs a specific type data for example a number that is all that should be entered.



Field Name	Data Type
ID	AutoNumber
	Short Text
	Long Text
	Number
	Large Number
	Date/Time
	Currency
	AutoNumber
	Yes/No
	OLE Object
	Hyperlink
	Attachment
	Calculated
	Lookup Wizard...

Database Domain

MS Access



This link is to the Microsoft Website.

It gives details on all the domains available in Microsoft Access.



[Microsoft Access Datatypes Information Link](#)



Row Record Tuple

- A tuple is one record (one row).
- Goes from left to right.
- The x axis so to speak, whereas the column is the y axis.
- A tuple/row will hold all the details about one particular person or thing.

Bill Gates

206-555-1234

billg@microsoft.com

PO Box 123, Seattle, WA
98100

Microsoft Access



A database management system.



Created by Microsoft.



It is closed source/proprietary.



<https://www.microsoft.com/en-gb/microsoft-365/access>

Microsoft Access



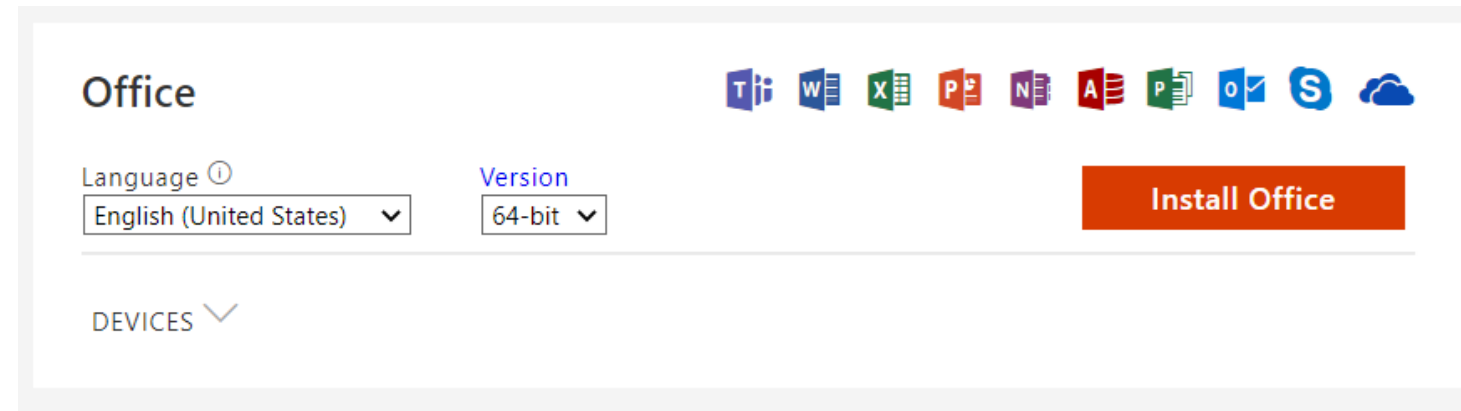
You will NEED this for the exam.



Install it (most schools, colleges and Universities give it for free).

How to Install Access

- Go to Outlook (email).
- Go to the Account Manager section (top right, your initials).
- Click View Account from drop down list.
- Go to Office Apps.





Next Section

The focus will be exam stuff.

Microsoft Access basic Tutorial

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Exam Topics

Here I will simply list all the topics you will need for the exam.



Exam Topic List – Part A



Create Database



Creating Tables



Validation



Queries



Reports



Testing for part A

Exam Topic List – Part B

Evaluating Structure

Data Entry Forms

- Design View
- Buttons
- Form Validation
- Macros
- Adding Extra Columns

Testing Part B (screenshots in template)

Evaluating Forms

What are you given?



Part A of the exam paper.

Templates



Part B of the exam paper.

Templates Database

 activity2.rtf

 activity3.rtf

 activity4.rtf

Part 2

2020 The Scenario



The Scenario



I will be reading a past paper.



I will make note of important pieces of information.



In the exam I **HIGHLY** recommend you make notes.

Tables Needed

- We need to work out the tables.
- We need to work out what goes in each table.



Table Information Needed

An extract of the data the organisation would like to record is shown in **Figure 1**.

Ticket Number	Forename	Ticket Type ID	Ticket Cost	Customer ID	Surname	Ticket Type	Telephone	Customer Type ID	Customer Type
1000	Mildred	1	£39	1	Mitchell	Friday	03415610539	3	Guest of Organiser
1001	Mildred	1	£39	1	Mitchell	Friday	03415610539	3	Guest of Organiser
1002	Amanda	1	£39	2	Ferguson	Friday	01776717391	1	Regular
1003		1	£39			Friday			
1004	Eric	2	£49	3	Ferguson	Saturday	03594633138	2	New
1005	Eric	2	£49	3	Ferguson	Saturday	03594633138	2	New
1006		2	£49			Saturday			
1007		2	£49			Saturday			
1008	Ralph	3	£88	4	Martinez	Camping	06408785372	1	Regular
1009	Ruby	3	£88	5	Butler	Camping	07975693071	3	Guest of Organiser
1010		3	£88			Camping			

2020 Past Paper Tables Needed



- There is not always a specific number of tables we can use.
- Sometimes 3 (unlikely, but possible).
- Sometimes 4 (most likely).
- Sometimes 5 (somewhat likely).

2020 Past Paper Tables Needed

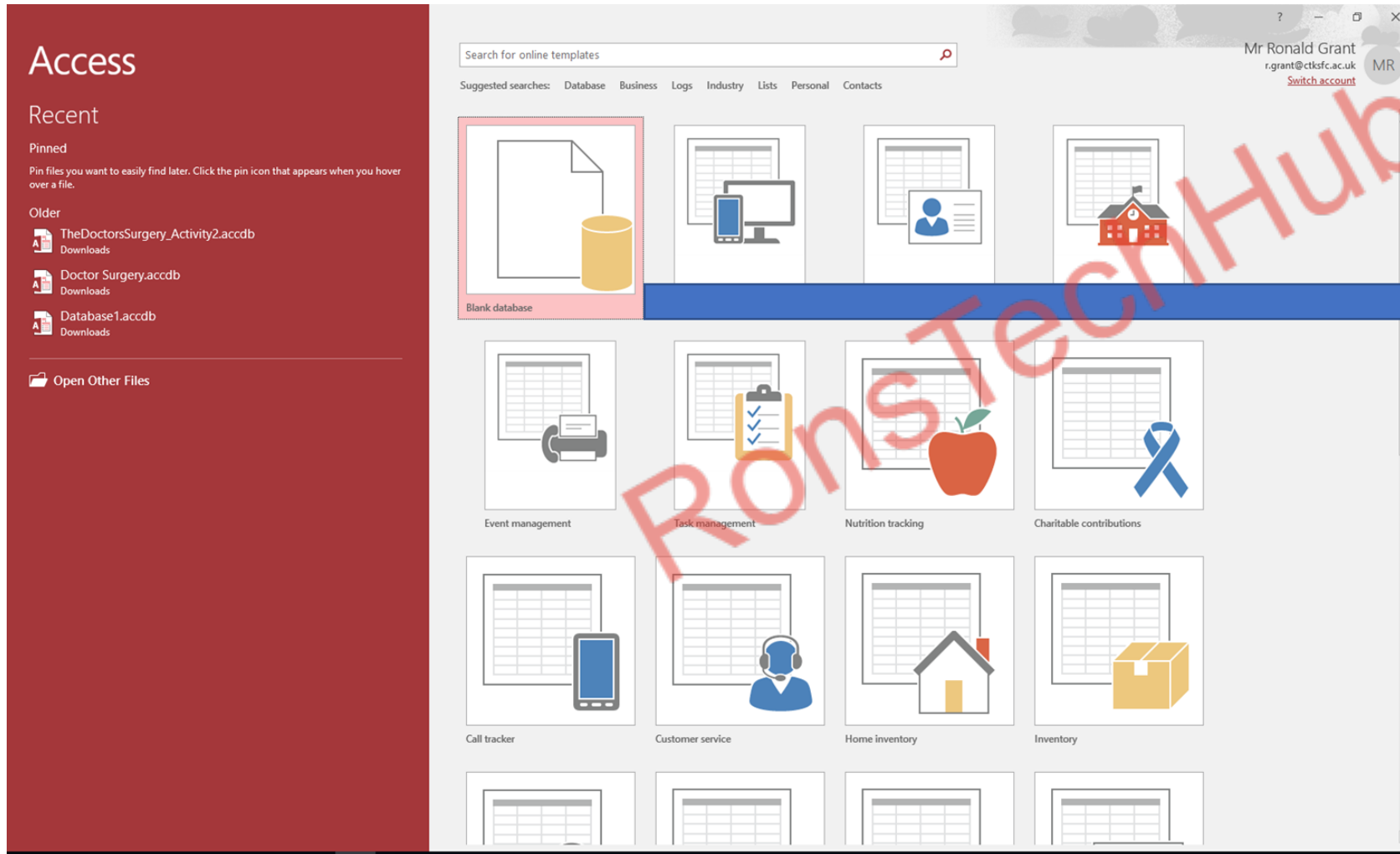
- We will be making use of four tables.
- DO NOT USE SPACES.
- **CustomerTypeTable**
- **CustomerTable**
- **TicketTable**
- **TicketTypeTable**

Creating Tables

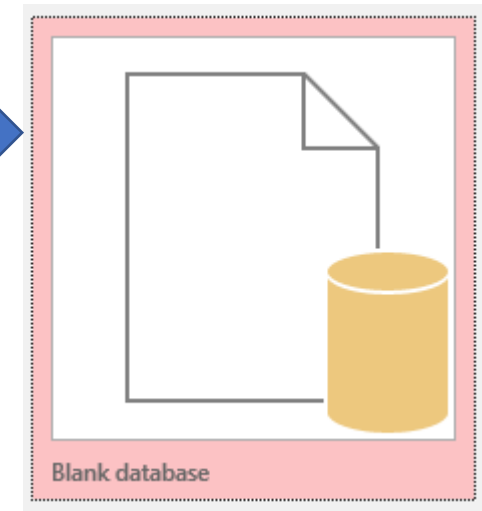
2020 Past Paper

Open Microsoft Access

Creating Tables 2020 Past Paper

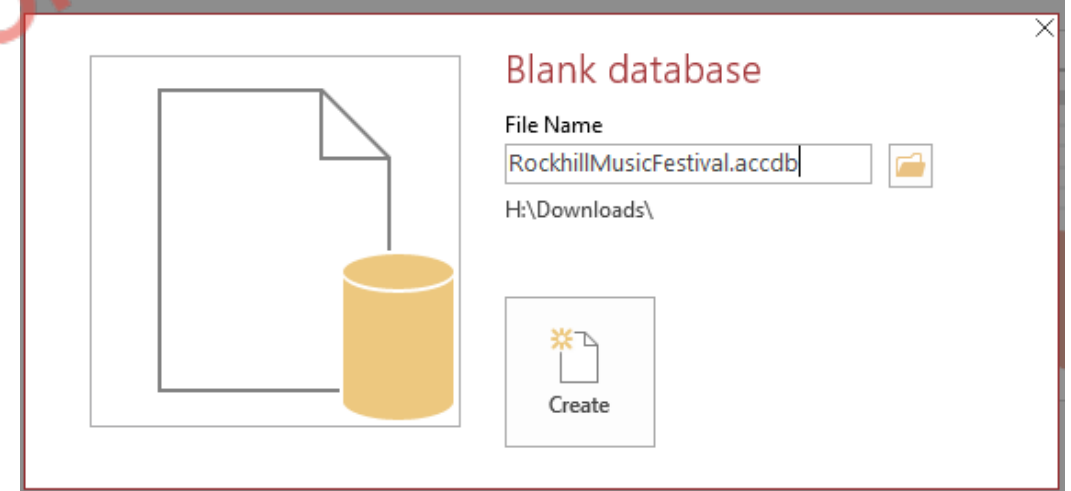
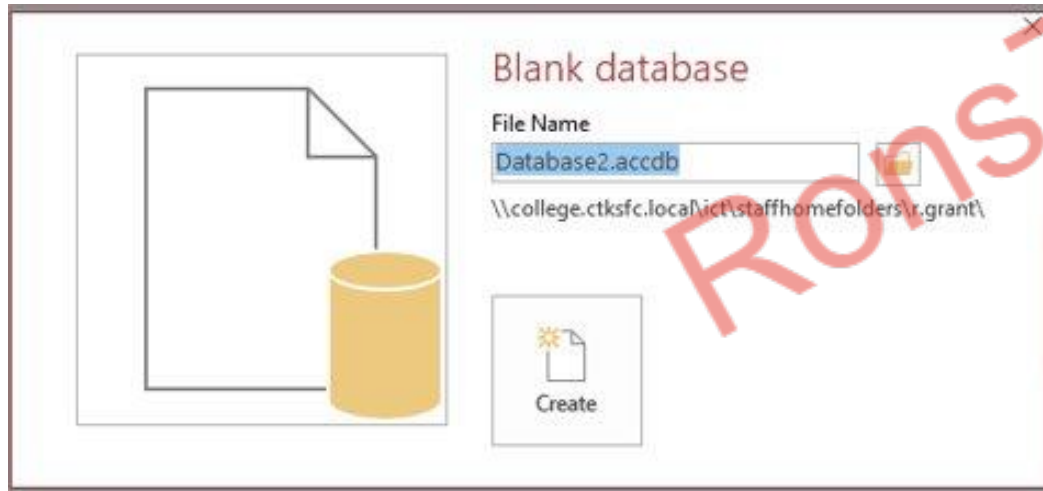


Select Blank database.



Creating Tables 2020 Past Paper

- Choose a name and a location to save it in.
- Most schools/colleges will give you your personal user area.



Creating Tables

2020 Past Paper

- Click update now.
- You might also see allow/enable editing.
- This should NOT happen, but just in case it does.

 **SECURITY WARNING** Some active content has been disabled. Click for more details.

Enable Content

 **UPDATES AVAILABLE** Updates for Office are ready to be installed, but first we need to close some apps.

Update now

Creating Tables 202 0 Past Paper



We have one table created for us, it is called, "Table".



We can use this for our first table.



What goes in each table?



Make notes either on paper or in "activity_2.rtf" template document.

Creating Tables 2020 Past Paper



Make notes in the exam.



Use Word Document.



Use paper.

Creating Tables 2020 Past Paper

- **CustomerTable**

- CustomerID
- Surname
- Forename
- Telephone
- CustomerTypeID



Creating Tables 2020 Past Paper

- **CustomerTypeTable**
 - CustomerTypeID
 - CustomerType



Creating Tables 2020 Past Paper

- **TicketsTable**

- TicketNumber
- TicketTypeID
- CustomerID



Creating Tables 2020 Past Paper

- **TicketType**
 - TicketTypeID
 - TicketType
 - TicketCost

Primary and Foreign Keys



Primary Keys are values that are unique.



They cannot be repeated anywhere in that table.



A **primary key** is a special relational database table column (or combination of columns) designated to uniquely identify each table record.



[Reference](#)

Foreign Keys



A foreign key is a column or group of columns in a relational database table that provides a link between data in two tables.



It acts as a cross-reference between tables because it references the primary key of another table, thereby establishing a link between them.



[Reference](#)



Creating Tables 2020 Past Paper

- We need to work out the Primary Keys for the tables created.

CustomerTable



CustomerTable

Primary Key = CustomerID



It is a value that will not be repeated.

CustomerTypeTable



CustomerType

Primary Key = CustomerTypeID



It is a value that will not be repeated.

TicketType Table



TicketType

Primary Key = TicketTypeID



It is a value that will not be repeated.

Ticket Table



Ticket

Primary Key = TicketNumber

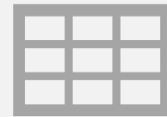


It is a value that will not be repeated.

Data Types



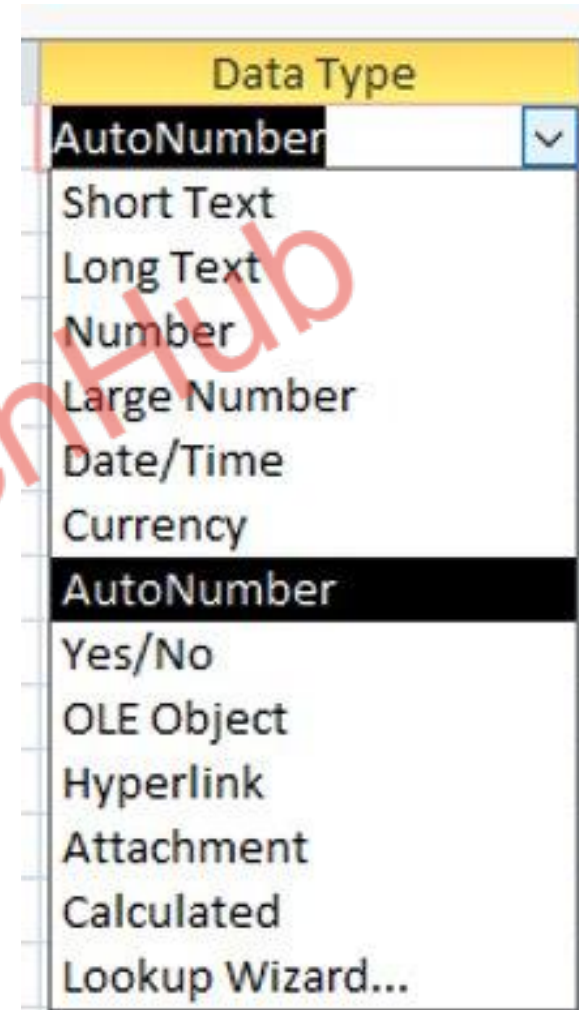
We know Primary Keys.



We need to work out the datatypes for each item.

Datatypes

- The datatypes we need to focus on are:
 - AutoNumber
 - Short Text
 - Long Text
 - Date/Time
 - Currency
 - Yes/No
 - Hyperlink
 - Attachment
 - Calculated
 - Lookup Wizard



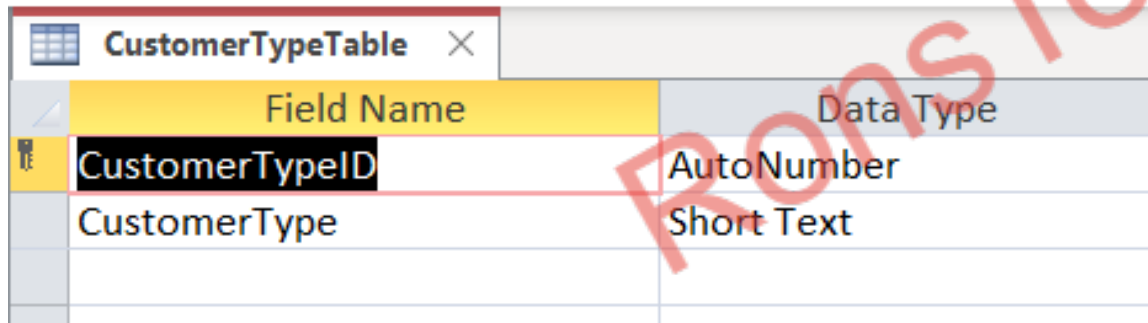
CustomerTable Design View with datatypes

Field Name	Data Type
CustomerID	AutoNumber
Surname	ShortText
Forename	ShortText
Telephone	ShortText
CustomerTypeID	Number

CustomerTable	
Field Name	Data Type
CustomerID	AutoNumber
Surname	Short Text
Forename	Short Text
Telephone	Short Text
CustomerTypeID	Number

CustomerType Table Design View with datatypes

Field Name	Data Type
CustomerTypeID	AutoNumber
CustomerType	ShortText



The screenshot shows the design view of a table named 'CustomerTypeTable'. The table has two fields: 'CustomerTypeID' with data type 'AutoNumber' and 'CustomerType' with data type 'Short Text'. The 'CustomerTypeID' field is highlighted with a black background. A red watermark 'RonsTechHub' is visible across the table.

Field Name	Data Type
CustomerTypeID	AutoNumber
CustomerType	Short Text

TicketType Table Design View with datatypes

Field Name	Data Type
TicketTypeID	AutoNumber
TicketType	ShortText
TicketCost	Currency

TicketTable	
Field Name	Data Type
TicketNumber	Number
TicketTypeID	Number
CustomerID	Number

TicketTable Design View with datatypes

Field Name	Data Type
Ticketnumber	Number
TicketTypeID	Number
CustomerID	Number

TicketTypeTable	
Field Name	Data Type
 TicketTypeID	AutoNumber
TicketType	Short Text
TicketCost	Currency

Normalisation





Normalisation n Videos

- 1NF - <https://www.youtube.com/watch?v=mUtAPbb1ECM>
- 2NF - <https://www.youtube.com/watch?v=R7UblSu4744>
- 3NF - https://www.youtube.com/watch?v=aAx_JoEDXQA

1NF – First Normal Form

- Atomic values. One value per column.

TABLE

Column 1	Column 2	
A	X, Y	
B	W, X	
C	Y	
D	Z	

1NF – First Normal Form

- Atomic values. One value per column.
- Consistent datatypes in each column. Do not mix them.

TABLE		
DOB	Name	
26-10-89	A	
13-2-92	SK	
16-11-65	SA	
R	8-9-86	

1NF – First Normal Form

- Column names MUST be unique/different.
- Doing queries would become extremely difficult or not work.

TABLE		
DOB	Name	Name
26-10-89	A	A
13-2-92	S	K
16-11-65	S	A
8-9-86	R	A

TABLE		
DOB	F_Name	L_Name
26-10-89	A	A
13-2-92	S	K
16-11-65	S	A
8-9-86	R	A

1NF – First Normal Form

- Order not relevant.
- Names do **not** have to be in alphabetical order for example.

TABLE		
Roll_no	F_Name	L_Name
3	A	A
4	S	K
1	S	A
2	R	A

1NF Video



1st Normal Form (1NF)

DBMS NORMALIZATION

2NF – Second Normal Form



First Normal Form (1NF) must have been done.



There needs to be no dependencies.



Specifically partial dependency.

2NF Video

Second (2NF) Normal Form

Simplest Explanation
for Beginners

3NF – Third Normal Form

- Must be in 1NF.
 - Must be in 2NF.
 - Primary and Composite Keys determine the other pieces of data in the table.
-

3NF Video

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3rd Normal Form (3NF)

DBMS NORMALIZATION

Normalisation
Video

1st, 2nd & 3rd Normal Form

A beginner's guide



How do we do Normalisation?



- You have already done it.
- By having separate tables with **ONLY** the information needed we have normalised the data.
- All the columns are independent.
- All columns already only have one piece of data, none are composite (made up of more than one piece of data).
- Tables separated logically. Customer information in customer table. Ticket information in ticket table.



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Primary Keys and Relationships

Primary Keys, Relationships and Screenshots

- Primary Keys are unique values.
- Values should NOT be repeated in the same table.
- We need to set the primary keys for each of the tables created.
- Primary Keys **BEFORE** relationships.

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Set Primary Keys



Should be first value you create by default.



You can change it.



Go to "Design View".



Select the column name then click on "Primary Key".

Screenshot – Windows 10

Go

Go to start menu.

Type

Type the word "snip".

Open

Open the snipping tool.

Click
on

Click on "new", then drag over the
area you want.

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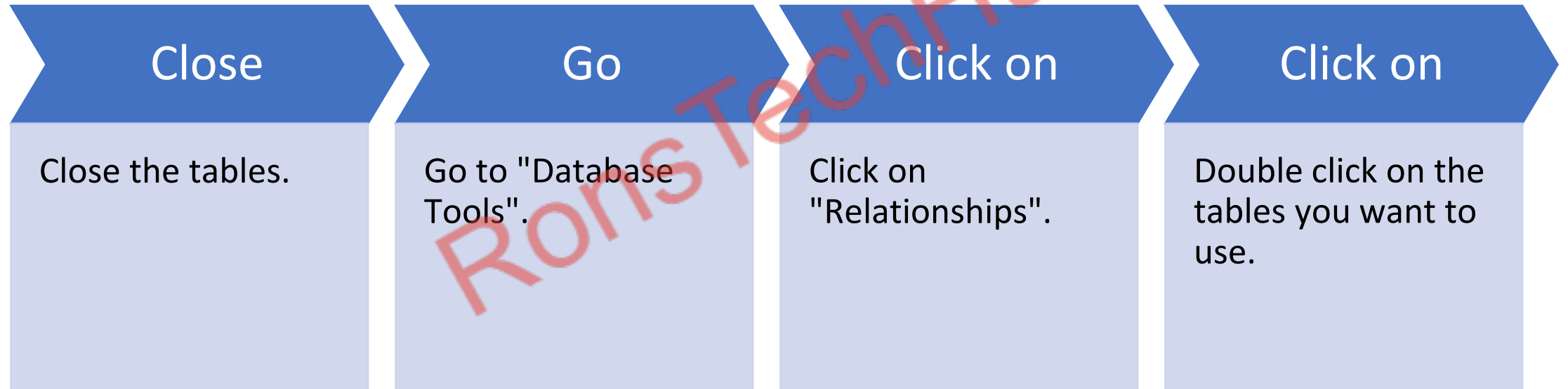
hub

Screenshot

Windows 10 and 11

- Press the key combination.
- WINDOWS + SHIFT + S.
- Drag over the area you want.

Creating Relationships



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Primary Key to Foreign Key

- Click on the primary key value.
- Click and HOLD.
- Drag to the foreign key, then release.

Edit Relationships

Table/Query: CustomerTable Related Table/Query: TicketTable

Table/Query	Field
CustomerTable	CustomerID
TicketTable	CustomerID

☒ Enforce Referential Integrity

☐ Cascade Update Related Fields

☐ Cascade Delete Related Records

Relationship Type: One-To-Many

Create

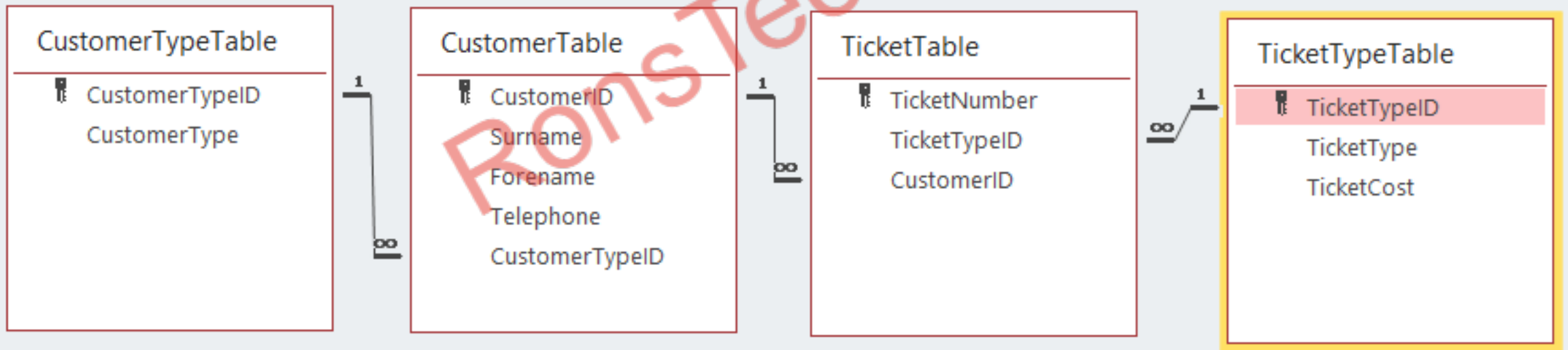
Cancel

Join Type..

Create New..

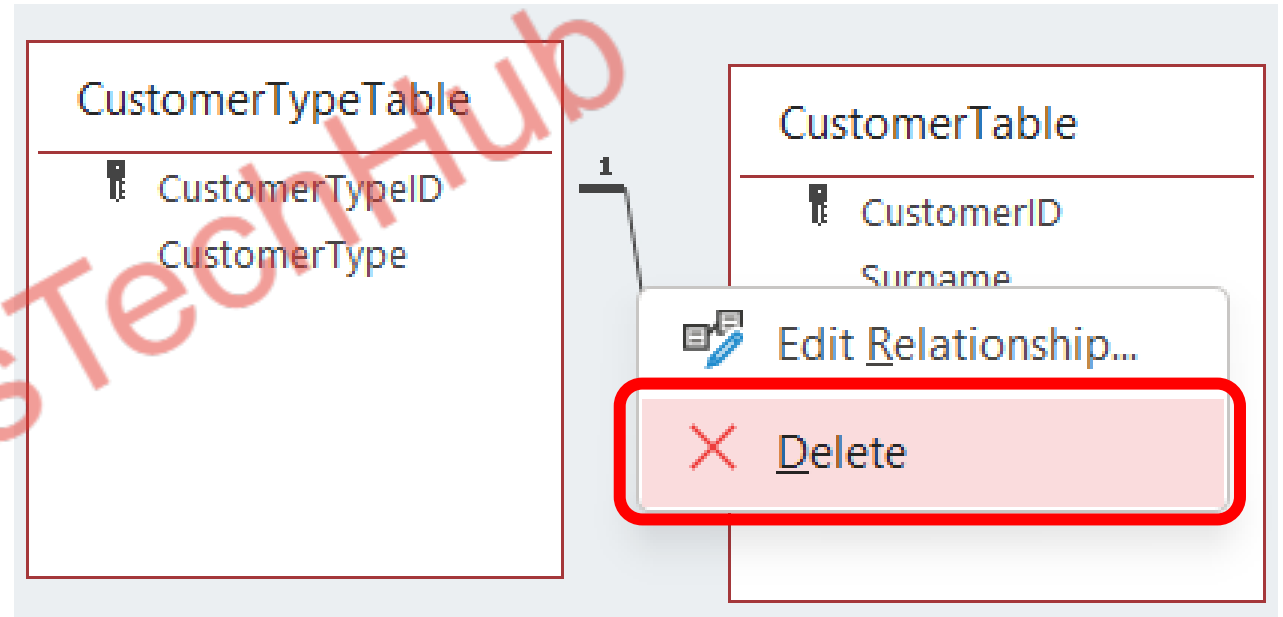
2020 Paper Table Relationships

Primary to Foreign
One To Many



Deleting/Removing A Relationship

- Click on the relationship line.
- Press delete on your keyboard.
- OR Right click on the line and select delete.



Past Paper – 2020 – Validation Rules

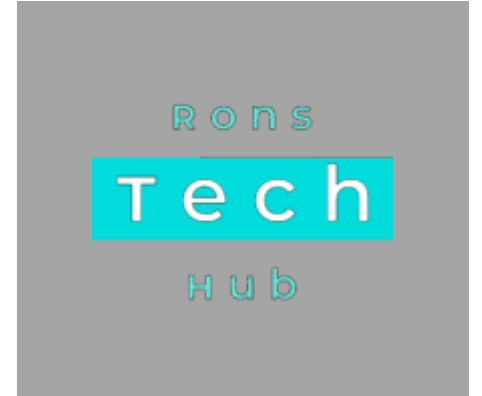
- We have two ways to ensure data is usable.
- It must be accurate and complete.
- Validation.
- Verification.

Verification



- Check against the original to ensure it is correct.
- Websites asking for double entry of password or usernames.

Validation



- We must get what we are asked for.
- Age is required we should not put letters.
- Name should be letters and not be 1,000 characters long.

Types Of Validation

- Presence Check
- Length Check
- Value Lookup
- Range Check
- Table Lookup
- Format Check

RonsTechHub

Presence Check



Check if the user has entered a value.



If the user does not enter a value they CANNOT continue.



Normally done on websites with an asterisk.

Length Check

- Ensure the user has typed in the amount of stuff needed.
- UK mobile numbers are either 11, 12 or 13 digits.
- 07939500313
- 447939500313
- +447939500313
- Please "**do not**" harass this person, I simply made this number up.

R O N S

T e c h

H U B

Value Lookup



- You the database designer allows the user to choose from options.
- You decide on the options when creating this method.

Table Lookup

- Get values for this cell from another table.
- Another column in another table has the information that you want.
- You setup the cell so you can select from the options already there.

Range Check

- Check if the values entered are within the range expected.
- For example, salaries range from £30,000 to £100,000.
- Dates for meetings range from 01.01.2022 to 20.01.2022.
- Values must be within the range set.



Format Check

- I ask for a number. Give me a number.
- I ask for a letter give me letters.
- UK postcode can be SE13 5FH.
- Letter, letter, number, number, number, letter, letter.

2020 Past Paper Validation Rules

- Let us look at the 2020 past paper.
- Let us identify the validation rules we need to have in place.

The table structures must use suitable validation to meet these requirements:

- a record will not save without the customer's surname being present
- a record will not save if the customer telephone number is not in the correct format
- a record will not save if the customer is assigned an invalid customer type
- a record will not save if the cost of a ticket is not one of the three permitted values
- a record will not save if a ticket sale does not have a valid customer
- a record will not save if a ticket sale does not have a valid ticket type.

Validation Type?



A record will not save without the customer's surname being present.



Presence Check.

Validation Type?



A record will not save if the customer telephone number is not in the correct format.



Format Check.



Length Check.

Validation Type?



A record will not save if the customer is assigned an invalid customer type.



Table Lookup or Value Lookup.

Validation Type?



A record will not save if the cost of a ticket is not one of the three permitted values.



Table Lookup or Value Lookup.

Validation Type?



A record will not save if a ticket sale does not have a valid customer.

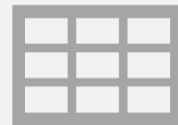


Presence Check.

Validation Type?



A record will not save if a ticket sale does not have a valid ticket type.



Value Lookup or Table Lookup.

Value Lookup

VS

Table Lookup



Value Lookup, you enter your values.

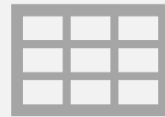
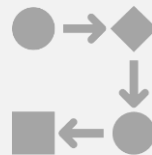


Table Lookup, you select values from another column from another table.

Presence Check



Checks if there is anything present.



If nothing is there, we cannot move forward.

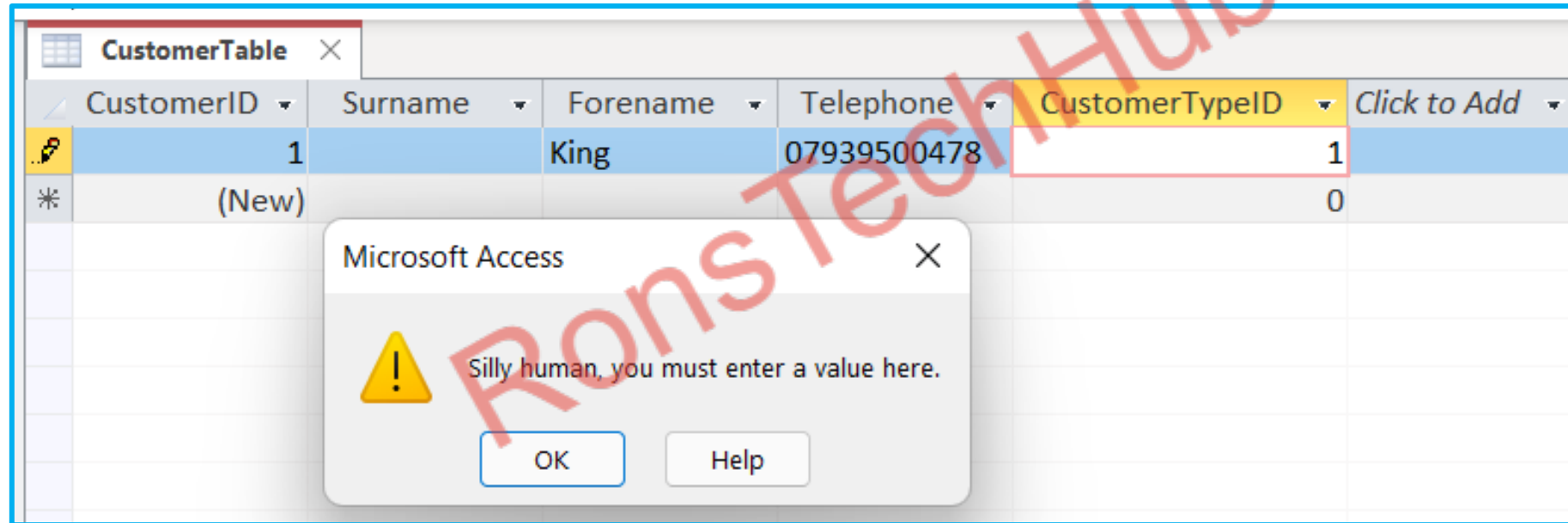
Presence Check Example

- Go to "**Design View**".
- Validation Rule = **Is Not Null**
- That tells the system to do the actual check.
- Validation Message/Text = Silly human, you must enter a value here.
- This is the message the user sees if they leave it blank.

General	Lookup
Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Is Not Null
Validation Text	Silly human, you cannot leave "Surname" empty.
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Presence Check Error Message

This will **ONLY** show if the user leave that cell blank.



Presence Check



This is how we ensure that the user "**MUST**" enter some value.



Note, we have not checked if the value entered is correct.



Only that a value was entered.

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Format Check & Length Check

- Go to Design View.
- Set Field Size to 11.
- UK phone numbers are typically 11.

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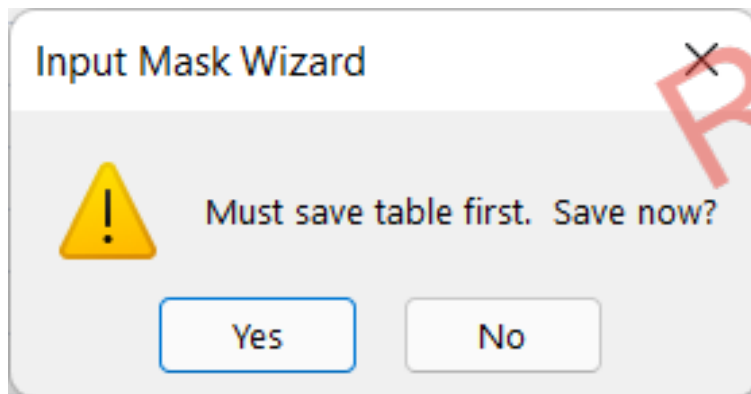
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General	Lookup
Field Size	11
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Format Check & Length Check

- Go to Input Mask field and click on the menu button.
- Choose yes to save.



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General		Lookup
Field Size	11	
Format		
Input Mask		
Caption		
Default Value		
Validation Rule		
Validation Text		
Required	No	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

Format & Length Check

- Double Click on phone number to edit the parameters.

Input Mask Wizard

Which input mask matches how you want data to look?

To see how a selected mask works, use the Try It box.
To change the Input Mask list, click the Edit List button.

Input Mask:	Data Look:
Phone Number	(5555) 123432
Postal Code	LN25 4DC
Password	*****
Long Time	13:12:00
Short Date	27/09/1969
Short Time	13:12

Try It:

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Format & Length Check

We change the amount of numbers so it matches 11 digits for the general UK number.

Input Mask Wizard

Do you want to change the input mask?

Input Mask Name: Phone Number

Input Mask: (9999) 000900009

What placeholder character do you want the field to display?

Placeholders are replaced as you enter data into the field.

Placeholder character: _

Try It:

Cancel < Back Next > Finish

Input Mask Wizard

Do you want to change the input mask?

Input Mask Name: User Defined

Input Mask: (9999) 0090009

What placeholder character do you want the field to display?

Placeholders are replaced as you enter data into the field.

Placeholder character: _

Try It: (0793) 9500313

Cancel < Back Next > Finish

Format & Length Check

Without the symbols in the mask, then click Finish.

Input Mask Wizard

How do you want to store the data?

☐ With the symbols in the mask, like this:
(8147) 2345252

☒ Without the symbols in the mask, like this:
1816828447

Cancel < Back Next > Finish

General		Lookup
Field Size	11	
Format		
Input Mask	\ (9999) "0090009";_	
Caption		
Default Value		
Validation Rule	Is Not Null	
Validation Text	Silly human, you cannot leave this empty. Also ensure it is in the corret format.	
Required	Yes	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

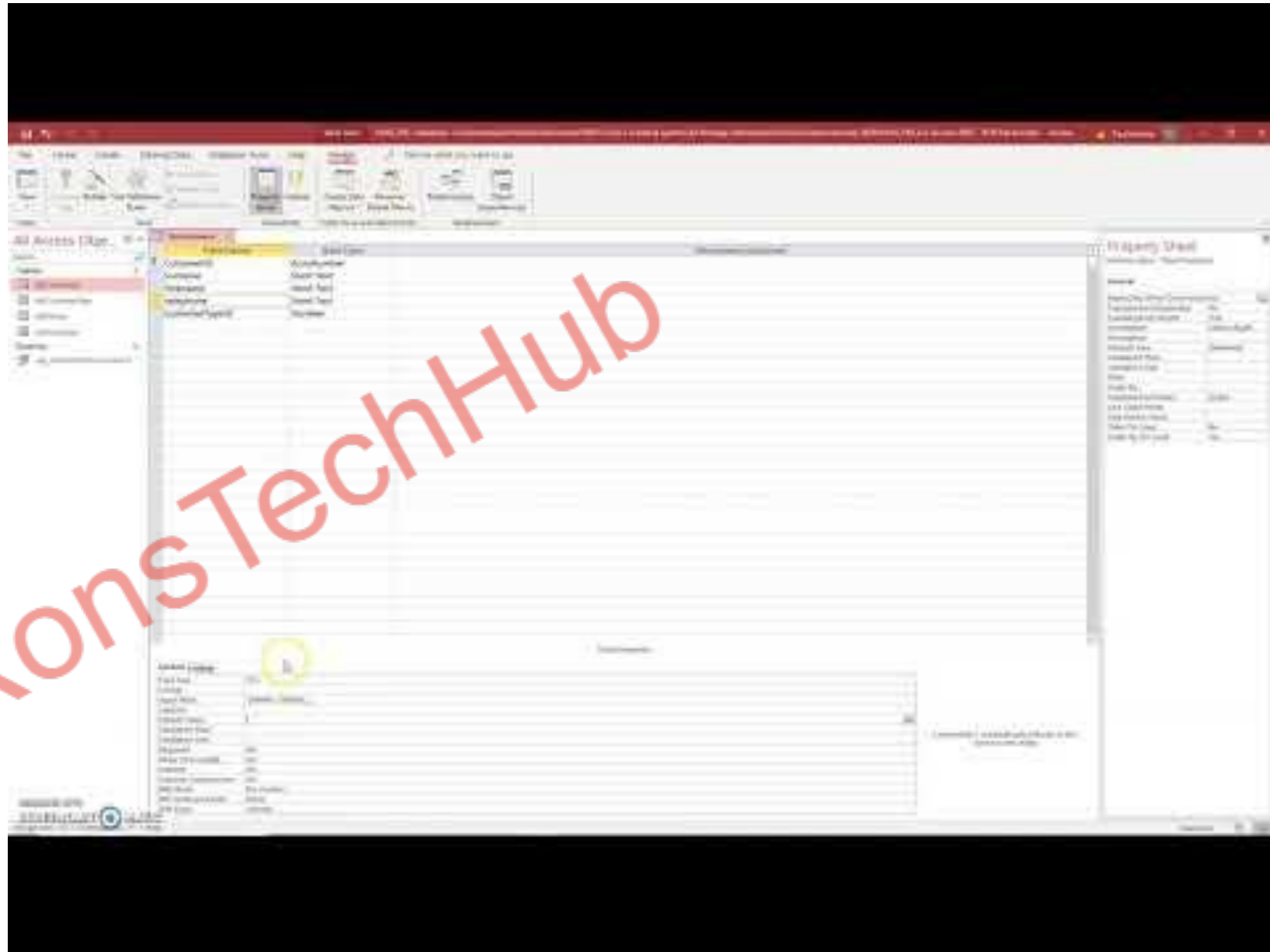
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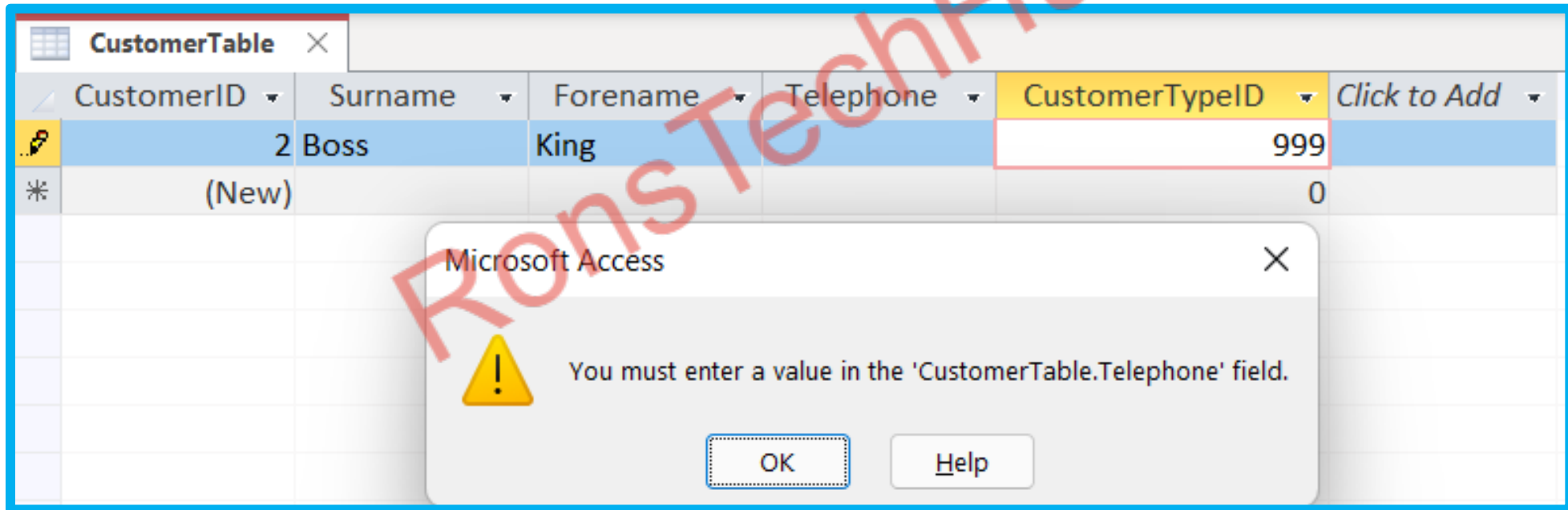
Format Check Phone Number

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Format & Length Check Error Message

Default message.



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Email

- A good idea to have **"Is Not Null"**, to ensure it is not left empty.
- Validation Rule = **Is Null OR ((Like "*?@?*.?*") AND (Not Like "*[,;]*"))**
- Validation Text = Silly human, please check that you have entered the email address and that you have done it correctly.

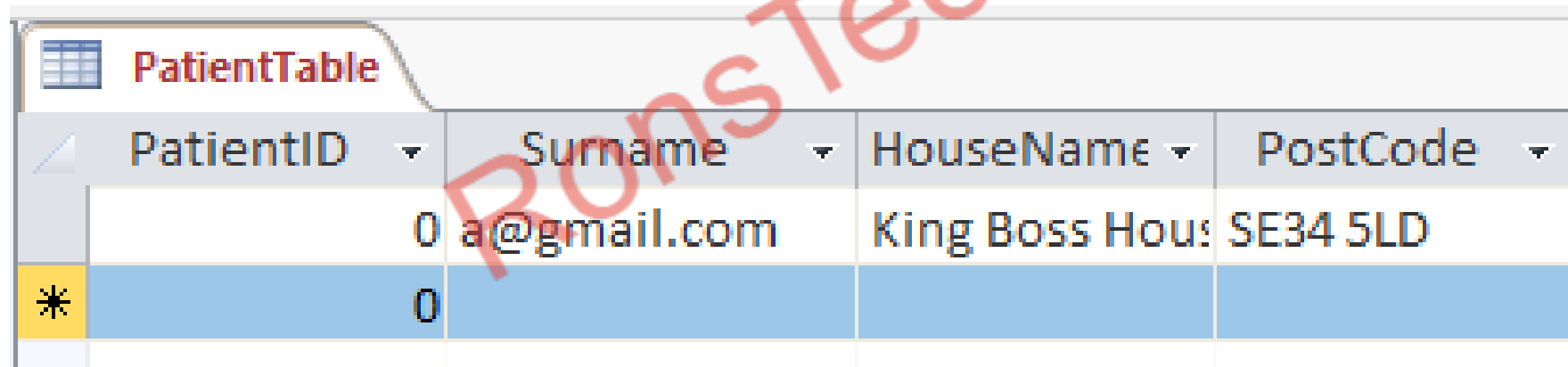
Format Check Email (Screenshot)

- Settings for validation rule for email.

General		Lookup
Field Size	255	
Format		
Input Mask		
Caption		
Default Value		
Validation Rule	Is Null Or ((Like "**?@?*.?*") And (Not Like "**[,;]*"))	
Validation Text	Silly human, please check that you have entered the email address and that you have done it correctly.	
Required	No	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

Format Check – Email (No Error)

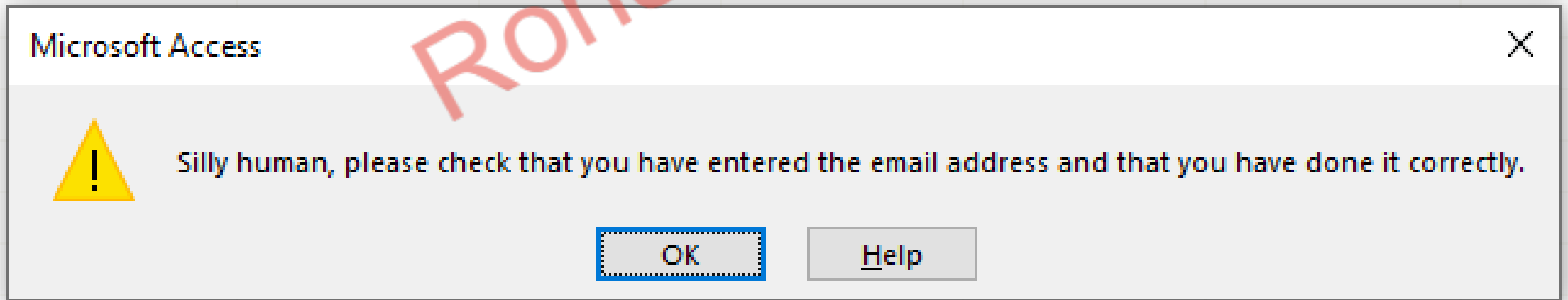
- This will work as it meets the criteria.



PatientTable			
PatientID	Surname	HouseName	PostCode
0	a@gmail.com	King Boss House	SE34 5LD
*	0		

Format Check (Error)

PatientTable						
PatientID	Surname	HouseName	PostCode	PatientType	Click to Add	
0	a	King Boss Hous	SE34 5LD	King Patient		
*	0					



Format Check (Error)

PatientTable

PatientID	Surname	HouseName	PostCode	PatientType	Click to Add
0	a@gmail.	King Boss Hou	SE34 5LD	King Patient	
0					

Microsoft Access

 Silly human, please check that you have entered the email address and that you have done it correct

Format Check Email Validation Rule

- Is Not Null OR ((Like "*?@?*.?*") AND (Not Like "*[,;]*"))
- Is Not Null ensure it is NOT left empty.
- They MUST enter a value.
- The criteria did say we should not save if the email is not present and in the correct format.

Email
Validation
Rule
Explained

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Validate Email

General Layout	
Field Size	200
Position	
Input Mask	
Caption	
Default Value	
Validation Rule	is not greater than 175 and is
Validation Text	Invalid Data
Required	No
Allow Zero Length	Yes
ReadOnly	No
Append Only	No

The screenshot shows a web application interface with a customer record for 'Richard'. A modal dialog box titled 'TechHelp Free Template' is overlaid on the record. The dialog contains a yellow warning icon and the text 'Invalid Email'. Below the text are two buttons: 'OK' and 'Hide'. The background record shows the following fields:

Richard	Is Active	Access Guru
808		
amiron@gmail.com		
716.791.7510		
6300 Daniels Pkwy Suite		
Fort Myers	FL	33912
Customer Since	1994-02-02	
Credit Limit	\$5,000.00	



Richard Rost
Microsoft 2014, 2015 MVP

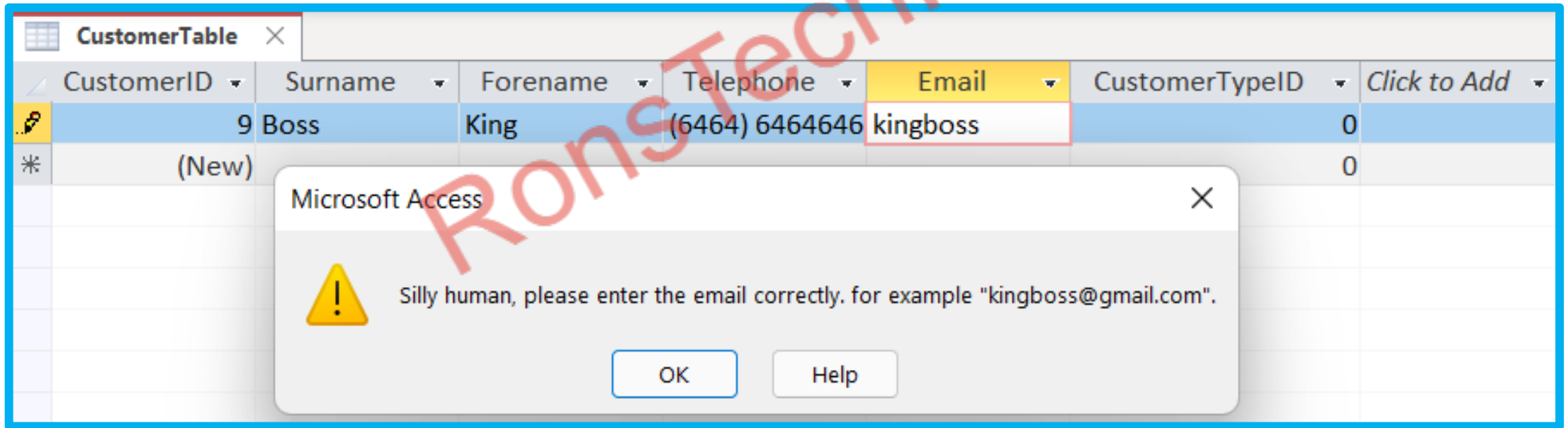


Email Validation The One I Did

I used **AND** so **BOTH** would need to be true.

General		Lookup
Field Size	255	
Format		
Input Mask		
Caption		
Default Value		
Validation Rule	Is Null And ((Like "***@?*.?*") And (Not Like "[,;]*"))	
Validation Text	Silly human, please enter the email correctly. for example "kingboss@gmail.com".	
Required	No	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

Email Validation The Error



Format Check Postcode

- Go to Design View.
- Select menu button from Input Mask.
- Double click on post code to edit the settings.

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Input Mask Wizard

Which input mask matches how you want data to look?

To see how a selected mask works, use the Try It box.

To change the Input Mask list, click the Edit List button.

Input Mask:	Data Look:
Phone Number	(5555) 123432
Postal Code	LN25 4DC
Password	*****
Long Time	13:12:00
Short Date	27/09/1969
Short Time	13:12

Try It:

Edit List Cancel < Back **Next >** Finish

Format Check Postcode

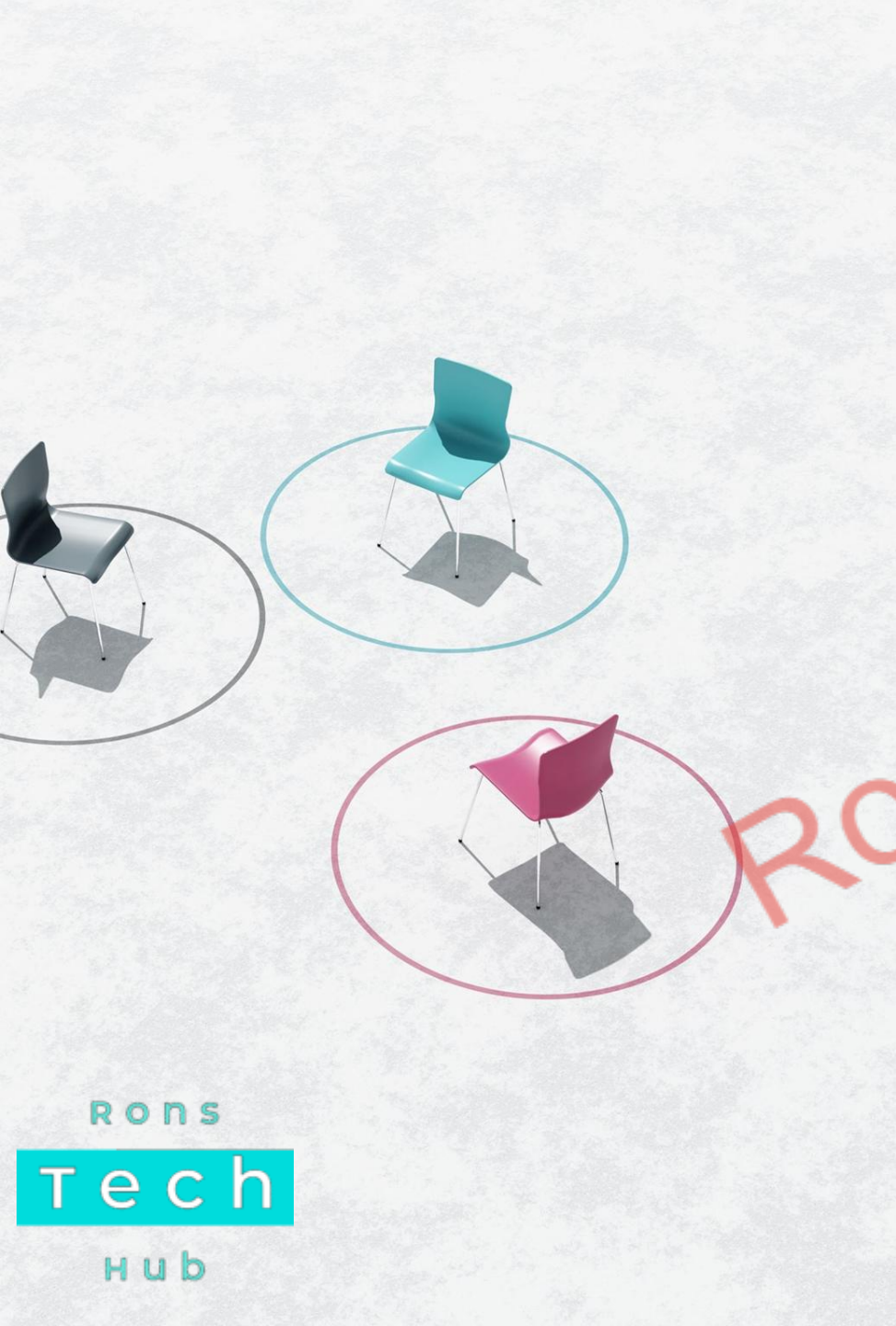
Input Mask

- Typical postcodes have Letter, letter, number, number, space, number, letter, letter.
- SE13 5LQ.
- Try to match the postcode from the exam paper, maybe do not try to do every single UK postcode combination.

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Length Check

- Probably one of the easiest ones to do.
- Go to Design View.
- Change Field Size from 255 to X.
- For postcode, typically the maximum should be 7.

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Length Check Design View

- Before and After.
- Be sure to add Validation Text (Error message).

General Lookup	
Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

General Lookup	
Field Size	20
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

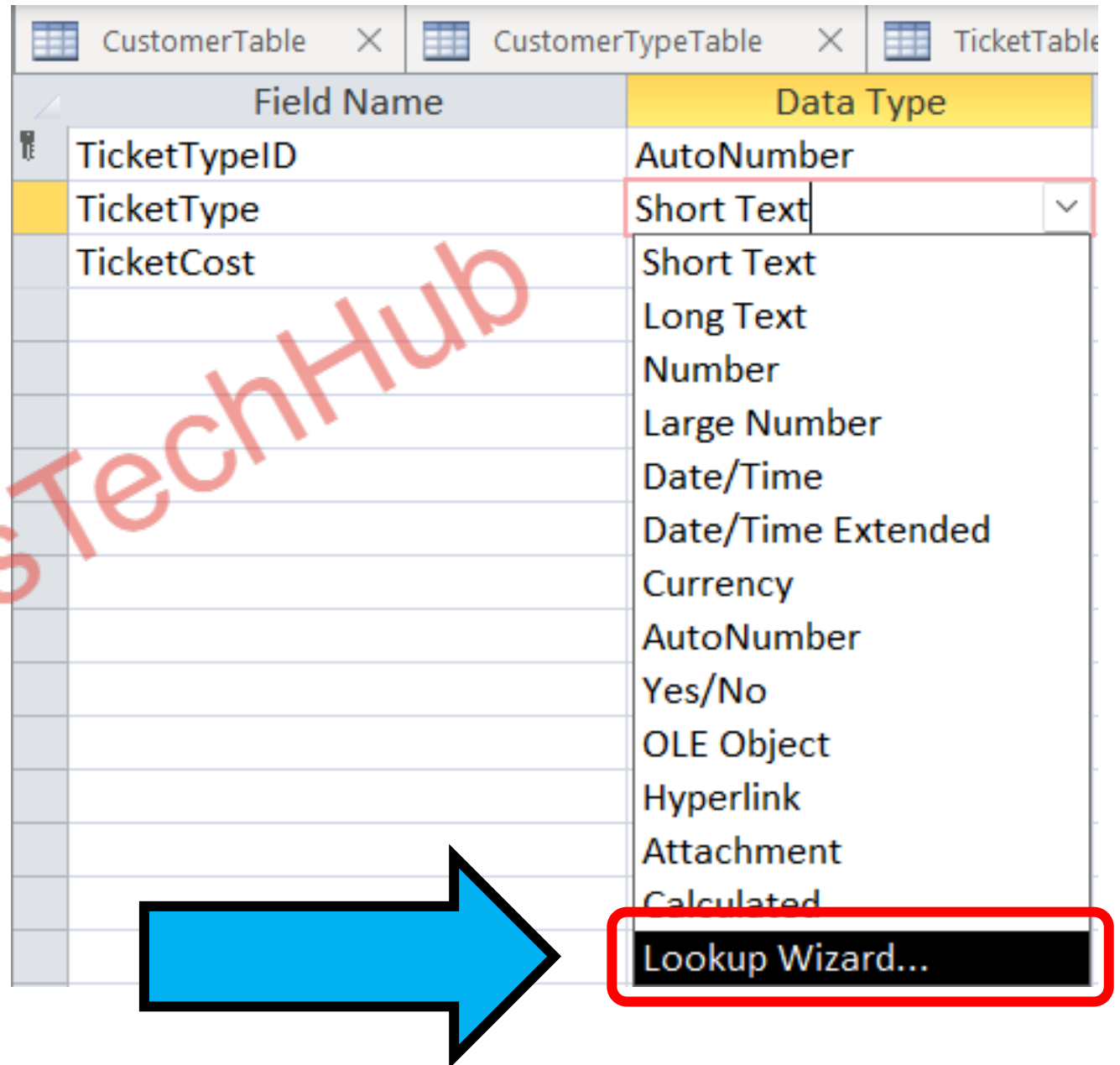
Value Lookup

From the datatypes select
Lookup Wizard.

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Value Lookup

- Choose the type the values you want.

Lookup Wizard

This wizard creates a lookup field, which displays a list of values you can choose from. How do you want your lookup field to get its values?

☐ I want the lookup field to get the values from another table or query.

☒ I will type in the values that I want.

Cancel < Back Next > Finish

Value Lookup

Enter the necessary
values.

Lookup Wizard

What values do you want to see in your lookup field? Enter the number of columns you want in the list, and then type the values you want in each cell.

To adjust the width of a column, drag its right edge to the width you want, or double-click the right edge of the column heading to get the best fit.

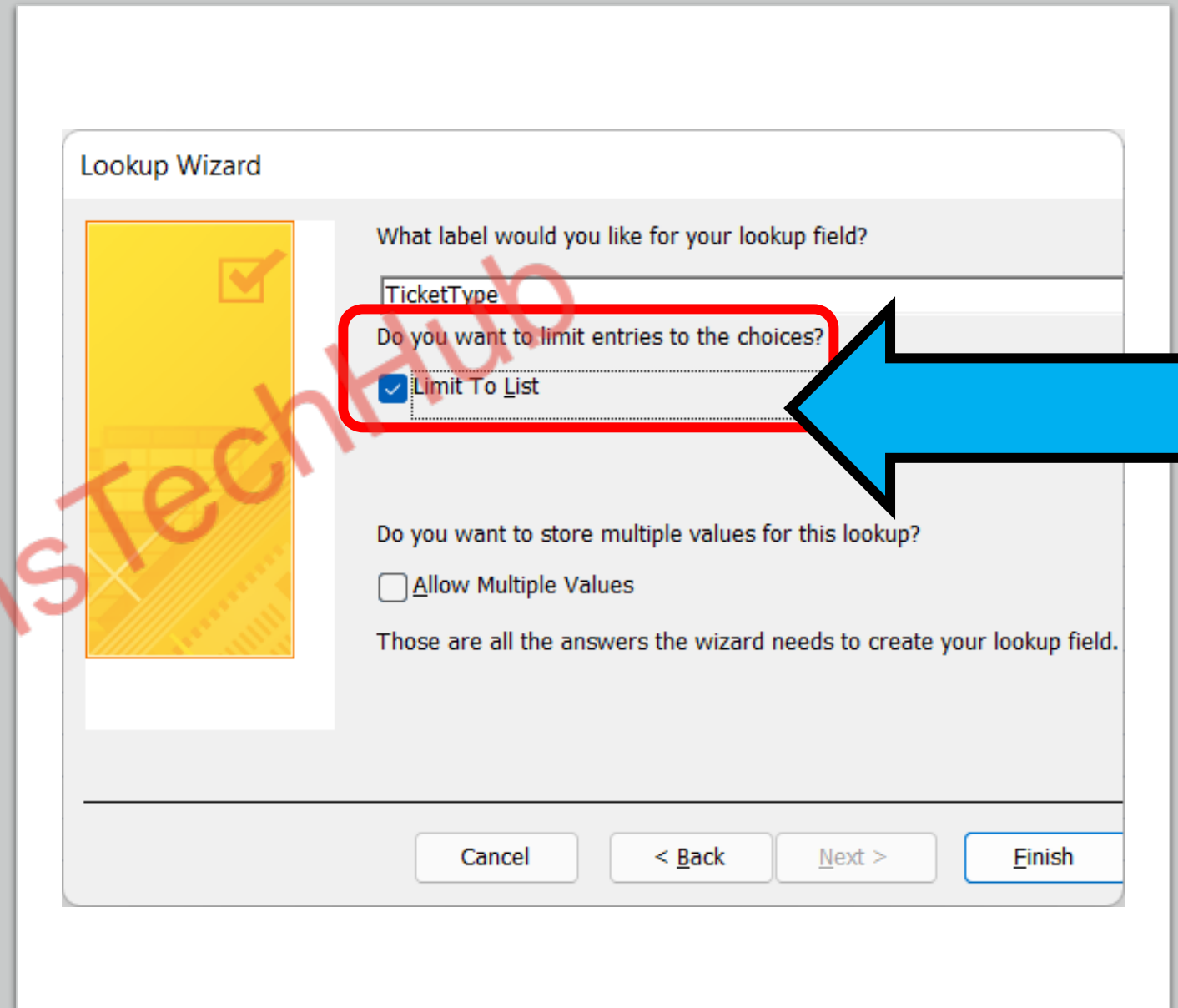
Number of columns:

Col1
Friday Only
Saturday Only
Both Days

Cancel < Back Next > Finish

Value Lookup Limit To List

- Limit to list should be ticked.
- This prevents them from typing in any other values.
- If this is not done, they can still enter whatever they wish.
- Click Finish when done.



Lookup Wizard

What label would you like for your lookup field?

TicketType

Do you want to limit entries to the choices?

☒ Limit To List

Do you want to store multiple values for this lookup?

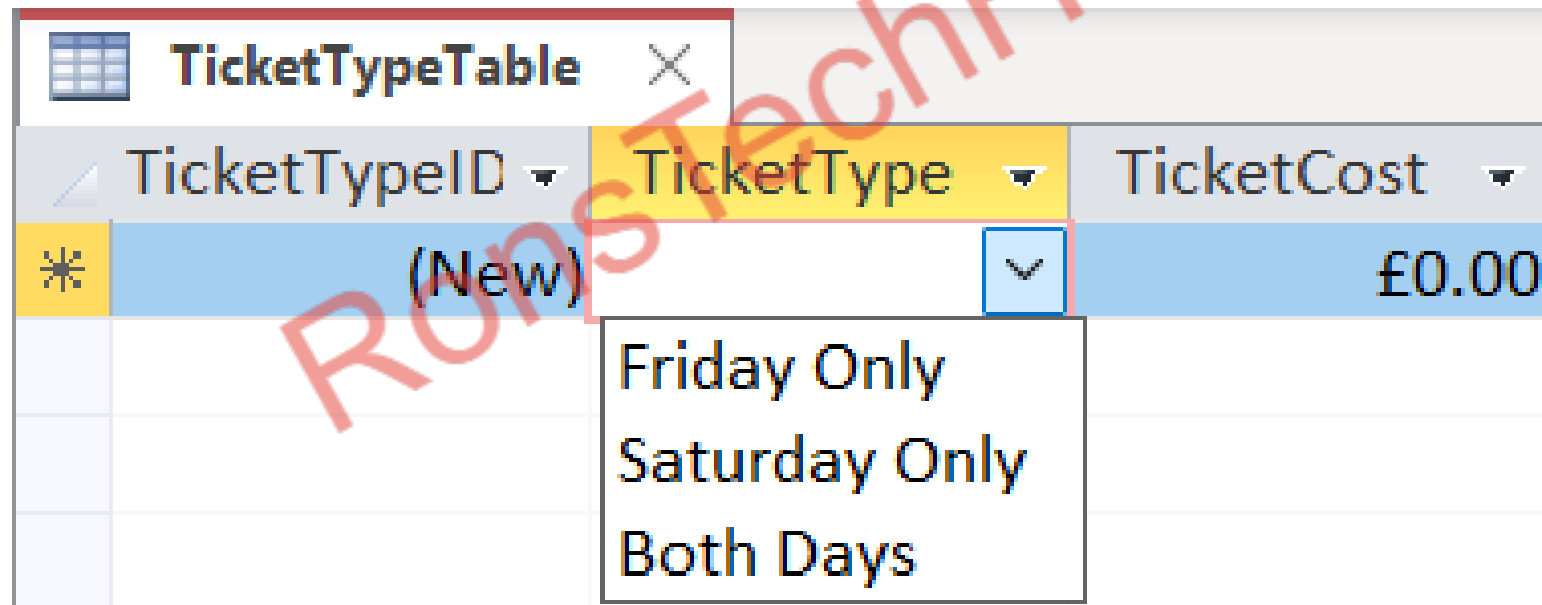
☐ Allow Multiple Values

Those are all the answers the wizard needs to create your lookup field.

Cancel < Back Next > Finish

Value Lookup

This is how it looks in the actual table.



The screenshot shows a window titled 'TicketTypeTable' with a close button. It contains a table with three columns: 'TicketTypeID', 'TicketType', and 'TicketCost'. The 'TicketTypeID' column has a dropdown arrow. The 'TicketType' column is highlighted in yellow and has a dropdown arrow. The 'TicketCost' column has a dropdown arrow. The first row of data is highlighted in blue and contains a yellow asterisk icon in the 'TicketTypeID' column, the text '(New)' in the 'TicketType' column, and '£0.00' in the 'TicketCost' column. A dropdown menu is open for the 'TicketType' column, showing three options: 'Friday Only', 'Saturday Only', and 'Both Days'. A large red watermark 'RonsTechHub' is diagonally across the image.

TicketTypeID ▼	TicketType ▼	TicketCost ▼
✱	(New) ▼	£0.00
	Friday Only	
	Saturday Only	
	Both Days	

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Value Lookup Limit To list

- The general section should look like this.
- The three options are shown.
- Limit to list has a "Yes" next to it.

General Lookup	
Display Control	Combo Box
Row Source Type	Value List
Row Source	"Friday Only";"Saturday Only";"Both Days"
Bound Column	1
Column Count	1
Column Heads	No
Column Widths	2.54cm
List Rows	16
List Width	2.54cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	No
List Items Edit Form	
Show Only Row Source Value	No

Random Tip

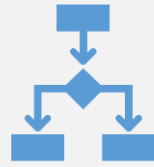


Always read and break down the error messages in access.



They tell you what is wrong.

Table Lookup



Get the values you want from another table.



If the values exist somewhere else, get them and use them here.



We do a mini query to another table.

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Range Check



Your values must be between two given values.



Example: Ticket price must be between £10 and £50.



Any value under £10 will **not** work.



Any value over £50 will **not** work.

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Range Check

How To?



Go to Design View.



On **Validation Rule**, add the below.



Between 10 and 50.



This can be changed to be any value you want.

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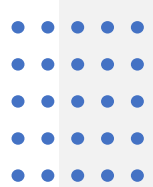
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Range Check How To?

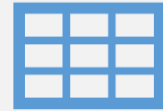
- Go to Datasheet View.
- Default Value – Automatically sets itself.
- Validation Rule – The thing you want to check.
- Validation Text – The message that comes up.



Range Check Validation Rule

- Between 0 and 10.
- **>Date()** – Today's date.
- **>Date()-1** – Greater than yesterday.
- **Date()+1** – Greater than tomorrow.
- **Between #01/01/2022# And #25/04/2022#**

Table Lookup



You will need to have some data in the tables to do it.



Bare minimum 2 records with different values.



NHS and Private.

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Table Lookup

- You get the values from another column in another table.

Table Lookup



Go to the table you want it in.



Go to Design View.



Change datatype to Lookup Wizard.

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Table Lookup

If you see this error, you might need to delete some relationships for now.

Go to Database Tools > Relationships > Delete the line.

Repeat process, previous slide.

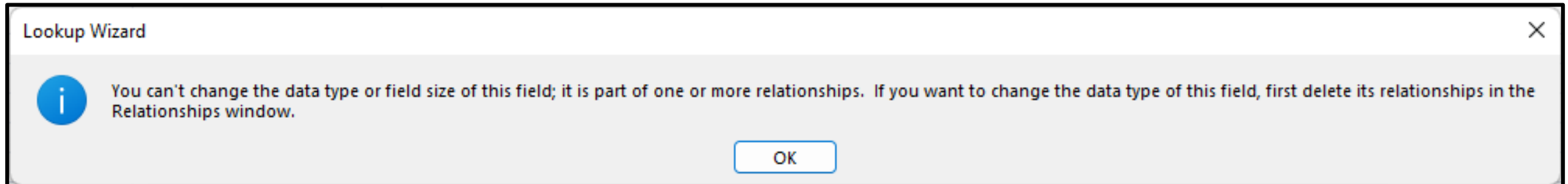


Table Lookup

Choose Lookup Wizard.

Field Name	Data Type
TicketNumber	Number
TicketTypeID	Number
CustomerID	Number
	Short Text
	Long Text
	Number
	Large Number
	Date/Time
	Date/Time Extended
	Currency
	AutoNumber
	Yes/No
	OLE Object
	Hyperlink
	Attachment
	Calculated
	Lookup Wizard...

-
- Choose the first option.
 - I want the lookup field to get the values from another table or query.

Lookup Wizard



This wizard creates a lookup field, which displays a list of values you can choose from. How do you want your lookup field to get its values?

☒ I want the lookup field to get the values from another table or query.

☐ I will type in the values that I want.

Cancel < Back Next > Finish

Table Lookup

- Choose the table you want it to come from.
- In this case, the data is coming from the Customer Table.
- Click Next.

Lookup Wizard



Which table or query should provide the values for your lookup field?

Table: tblCustomer
Table: tblCustomerType
Table: tblTicket
Table: tblTicketType

View

☒ Tables ☐ Queries ☐ Both

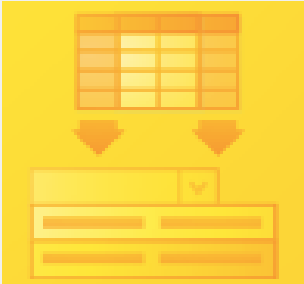
Cancel < Back Next > Finish

Table Lookup

- Choose the information you want to show.
- I am going for:
 - Customer ID
 - FirstName
 - LastName
- Click Next

Lookup Wizard

Which fields of tblCustomer contain the values you want included in your lookup field? The fields you select become columns in your lookup field.



Available Fields:

- Telephone
- Email
- CustomerTypeID
- PostCode

Selected Fields:

- CustomerID
- Forename
- Surname

Buttons: >, >>, <, <<, Cancel, < Back, Next >, Finish

Table Lookup

- Choose the order you want the information to be displayed in.
- Click Next.

Lookup Wizard

What sort order do you want for the items in your list box?

You can sort records by up to four fields, in either ascending or descending order.

1	CustomerID	Ascending
2	Forename	Ascending
3	Surname	Ascending
4		Ascending

Cancel < Back **Next >** Finish

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Table Lookup

- Hide key column.
- This will hide the primary key for us.
- Click Next.

Lookup Wizard

How wide would you like the columns in your lookup field?

To adjust the width of a column, drag its right edge to the width you want, or double-click the right edge of the column heading to get the best fit.

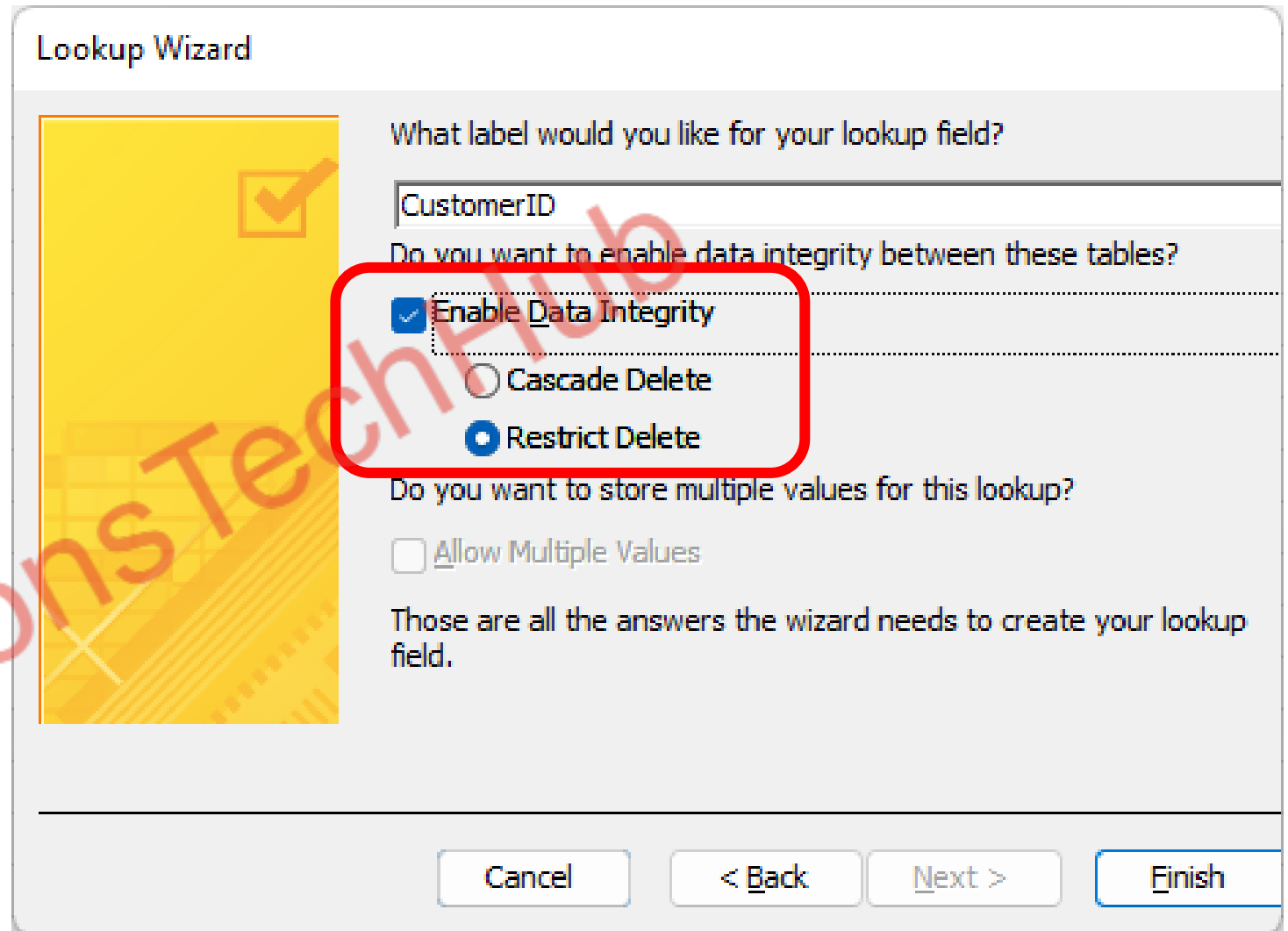
☒ Hide key column (recommended)

	Forename	Surname			
	Bob The	Builder			
	Squarepant	SpongeBob			
	Tom	jerry			

Cancel < Back Next > Finish

Table Lookup

- Enable data integrity.
- This will create/recreate the relationship.
- Click Finish.



Lookup Wizard

What label would you like for your lookup field?

CustomerID

Do you want to enable data integrity between these tables?

☒ Enable Data Integrity

☐ Cascade Delete

☒ Restrict Delete

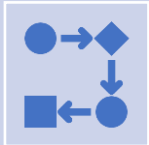
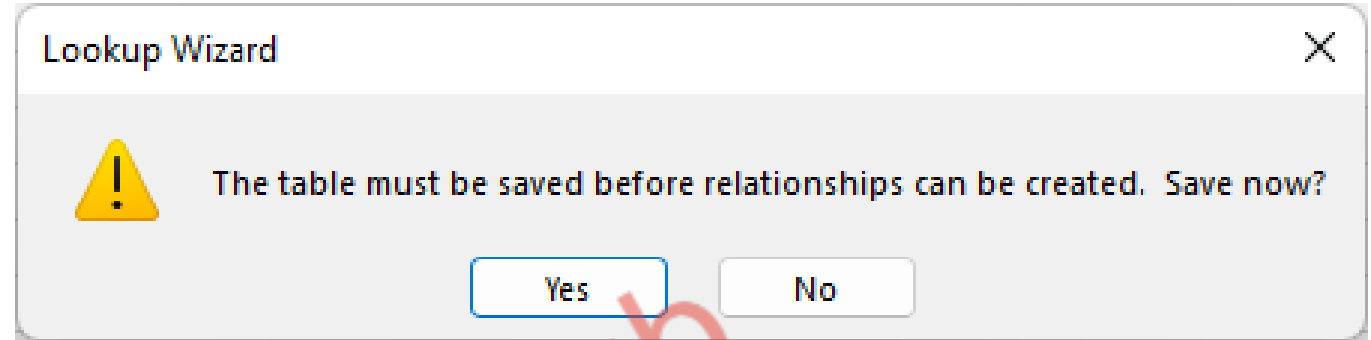
Do you want to store multiple values for this lookup?

☐ Allow Multiple Values

Those are all the answers the wizard needs to create your lookup field.

Cancel < Back Next > Finish

Table Lookup



Go to where you want the data to show and test it.



Lookup Section in Design View should have the query information in, "Row Source".



When doing screenshot show the entire section at the bottom.

Table Lookup

- Go to the table and test it from the drop-down menu.

TicketNum		TicketTypeID		CustomerID	Click to Add
*	0	0			
				Bob The	Builder
				Squarepant	SpongeBob
				Tom	jerry

Table Lookup Evidence

- Screenshot this entire section.
- I will show this in the template.

General Lookup	
Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [tblCustomer].[CustomerID], [tblCustomer].[Forename], [tblCustomer].[Surname] FROM tblCustomer ORDER BY [CustomerID], [Forename], [Surname];
Bound Column	1
Column Count	3
Column Heads	No
Column Widths	0cm;2.54cm;2.54cm
List Rows	16
List Width	5.079cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	No
List Items Edit Form	
Show Only Row Source V	No

Table Lookup Video



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Query To Table aka Table Query



- Make multiple tables from a single table.
- You will need to create the original table given to you.
- Then from there we normalise (pull out the important information we want for each table).
- Prevents you from having to create 4 tables manually.
- <https://www.youtube.com/watch?v=pOqsP-RyOFE>

Queries and Report

- Ask and you shall receive (If I have it).

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What is a Query?

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A question.



You ask the database for something.



If it is there, you get an answer.



If not, there is no answer.

What is a Report?

A way to show your answers from a query in a neat format.



Queries and Reports



A query has to be done first.



We then use the results to generate a report.

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Queries



There must be some data in your database.



Otherwise, there will be NO results will not show.

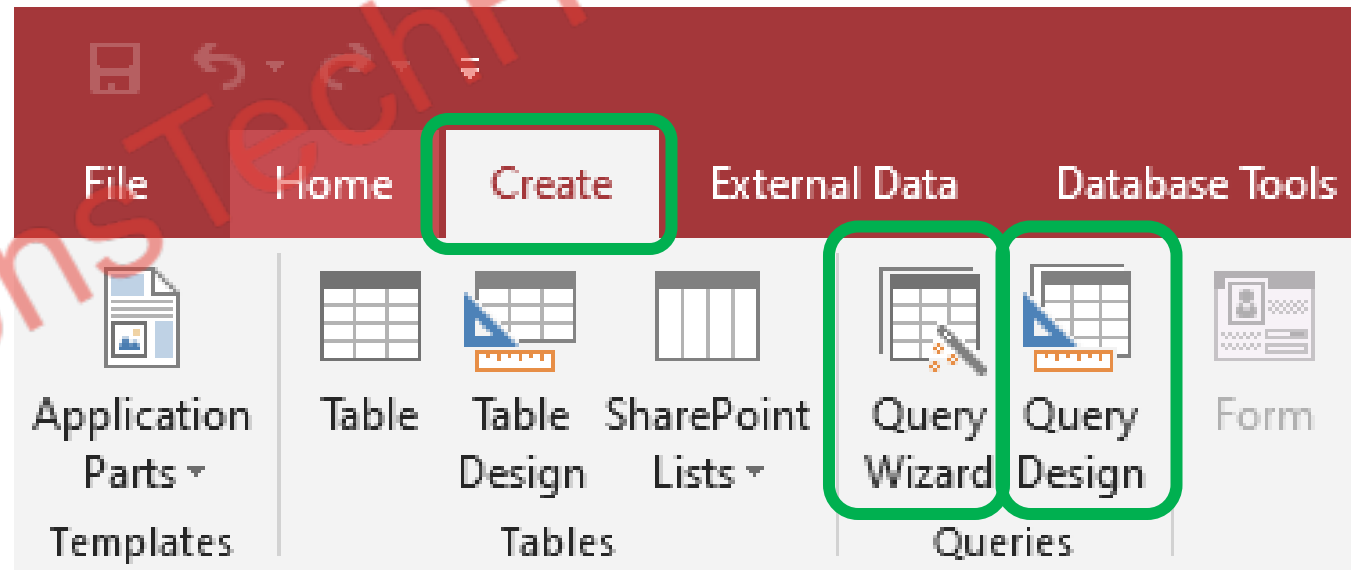
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How To Do A Query

- In the top banner, go to **Create**.
- Select either **Query Wizard** or **Query Design**.



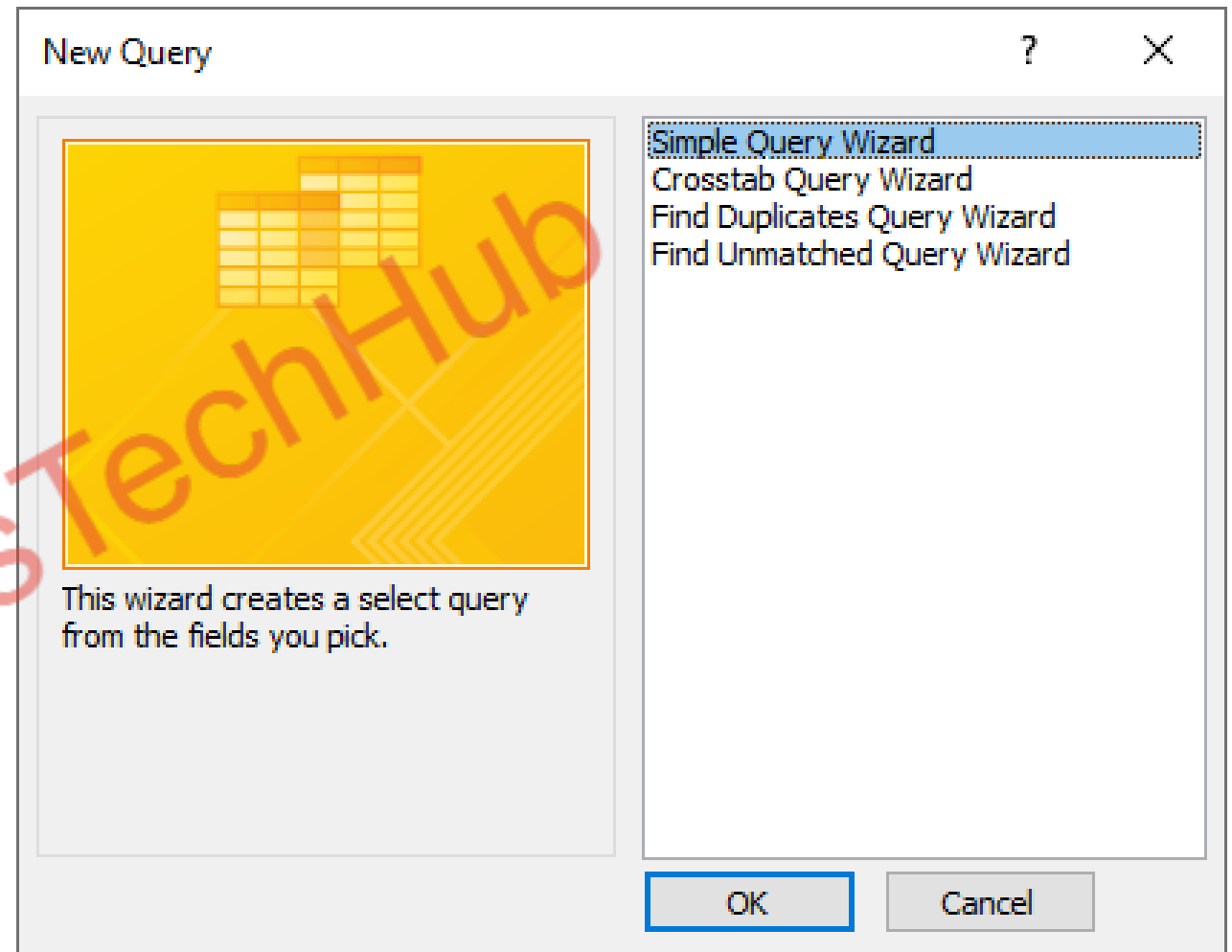
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Query Wizard Part 1

- This is the easier way in my opinion.
- Both will get you to the same result.
- For a basic query we need, **"Simple Query Wizard"**.



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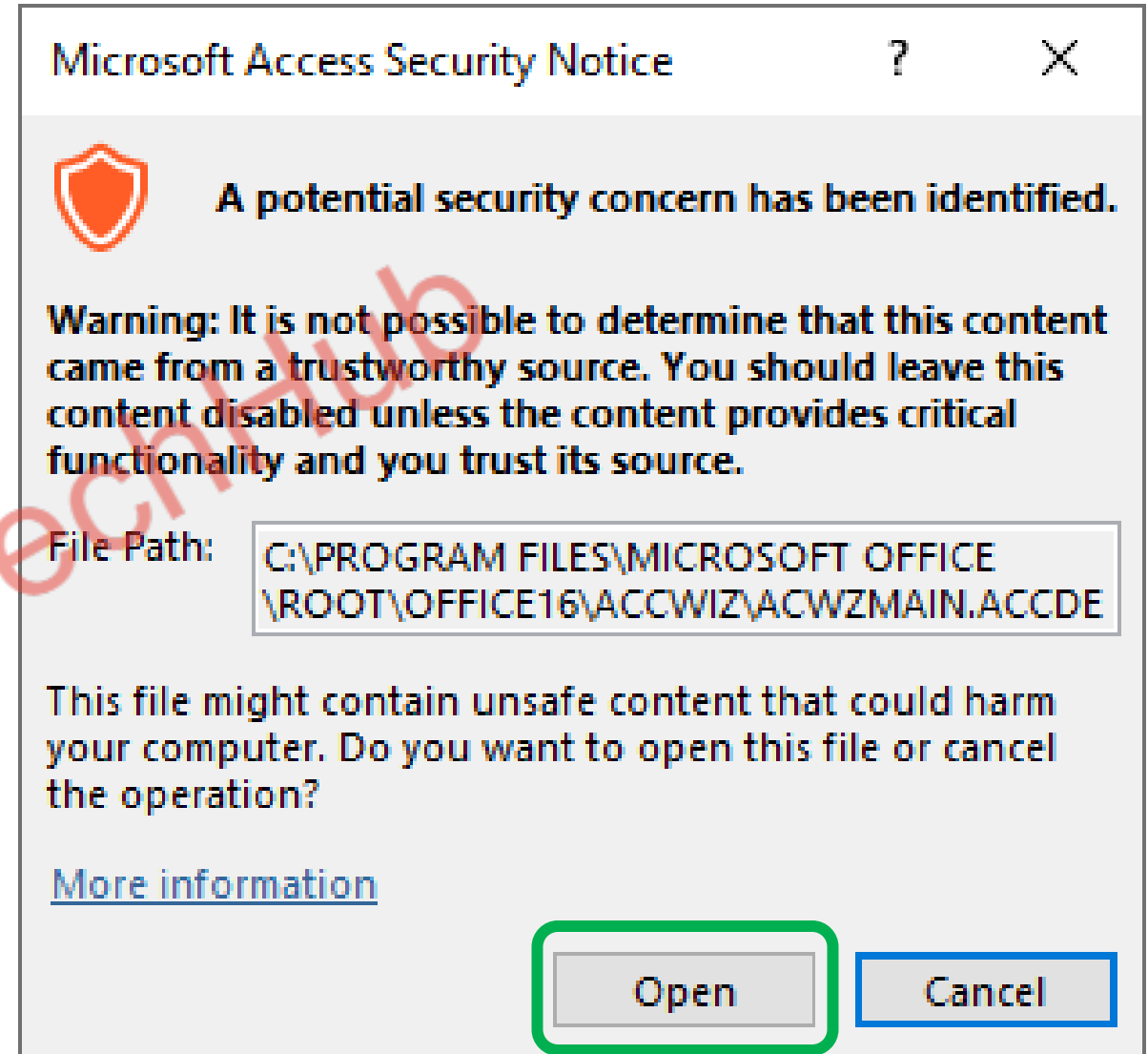
Query Wizard Part 2

- If you see this then you **NEED** to click open.

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Query Wizard Part 3

- Choose the table you want.
- Select the columns you want from the list at the bottom.

Simple Query Wizard

Which fields do you want in your query?
You can choose from more than one table or query.

Tables/Queries
Table: tblCustomer

Available Fields:

CustomerID	>	
Surname	>>	
Forename	<	
Telephone	<<	
Email		
CustomerTypeID		
PostCode		

Selected Fields:

Cancel < Back Next > Finish

Query Wizard Part 4

- I want all the data in the table.
- To move it all at once, click on the double right arrows.

Simple Query Wizard

Which fields do you want in your query?

You can choose from more than one table or query.

Tables/Queries

Table: tblCustomer

Available Fields:

Selected Fields:

CustomerID
Surname
Forename
Telephone
Email
CustomerTypeID
PostCode

Cancel < Back Next > Finish

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Query Wizard

Part 5

- Leave detail on.
- Click Next.

Simple Query Wizard

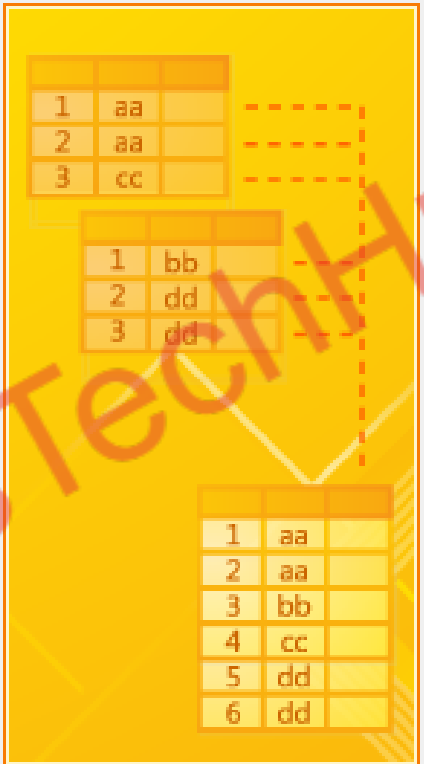
Would you like a detail or summary query?

☒ Detail (shows every field of every record)

☐ Summary

Summary Options ...

Cancel < Back **Next >** Finish



1	aa	
2	aa	
3	cc	

1	bb	
2	dd	
3	dd	

1	aa	
2	aa	
3	bb	
4	cc	
5	dd	
6	dd	

Query Wizard Part 6

- Give your Query a name.
- Use convention.
- Starts with "**qry**" then the name.
- QryAllCustomerData.

Simple Query Wizard

What title do you want for your query?

qryAllCustomerData

That's all the information the wizard needs to create your query.

Do you want to open the query or modify the query's design?

☒ Open the query to view information.

☐ Modify the query design.

Cancel < Back Next > Finish

Query Wizard Part 7

- This is what the information looks like.
- I pulled in all the information.



qryAllCustomerData						
CustomerID	Surname	Forename	Telephone	Email	CustomerTypeID	PostCode
24	Builder	Bob The	98798798798	asd@gmail.com	3	SE11 1RR
27	SpongeBob	Squarepant	87987987987	bikinibottom@	1	SE13 1GH
28	jerry	Tom	78789544777	11yu@bingbor	4	SW13 1GJ
29	Goku	Son	75455498424	goku@gmail.co	2	NW14 4GT
30	Gohan	Son	74581547877	songohan@gr	10	NE12 4WW
31	Radditz	Saiyan	12345678988	raditz@aol.cor	9	NW14 7FG
32	Picollo	Mr	78451236985	picolo@msn.co	5	NW14 8QE
*(New)					0	

Query Wizard Part 8

- You will also see the new query under the Query section.

Queries



qryAllCustomerData



qryQueryAll



qryQueryAll2

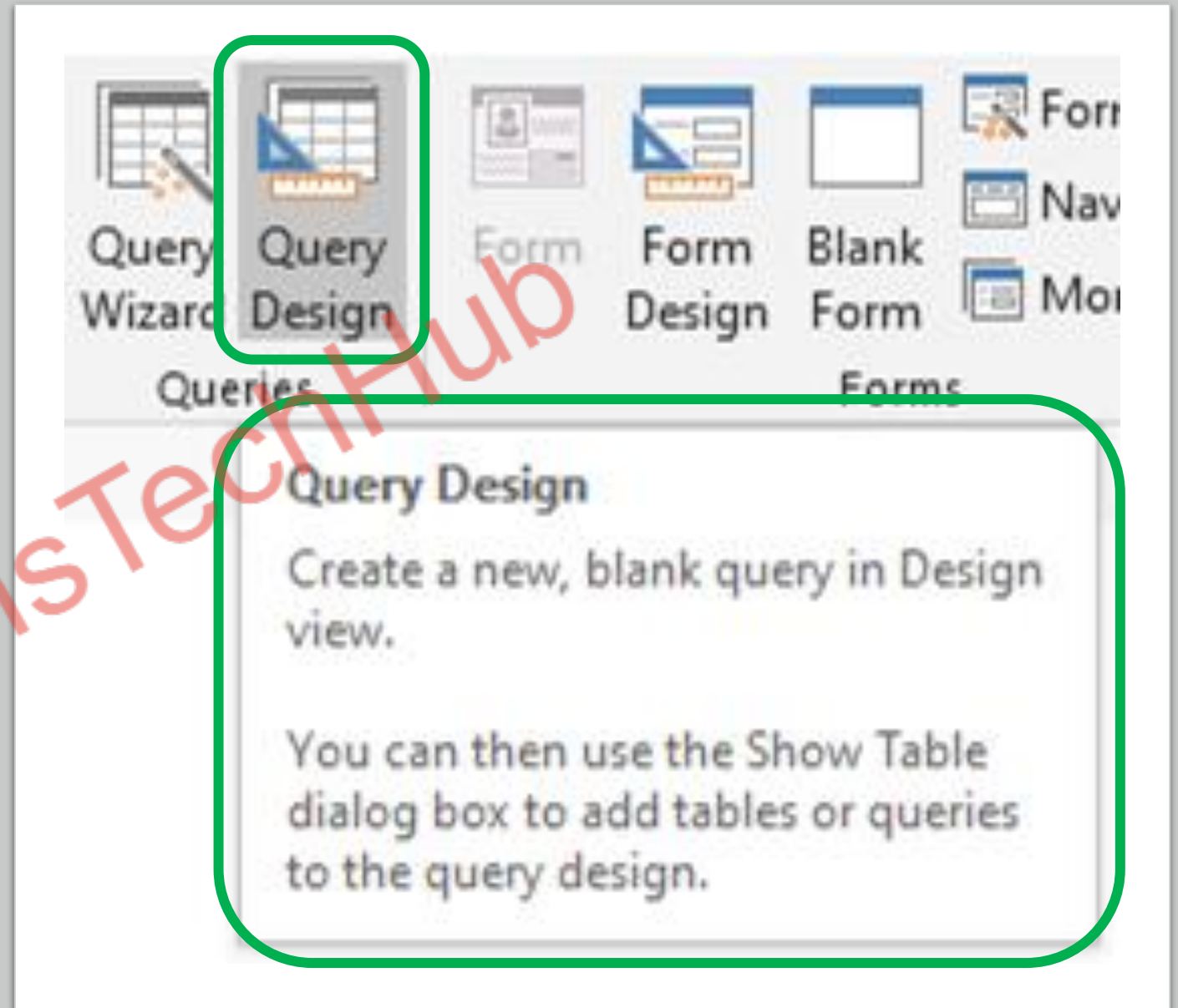
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Query Design Part 1

- Doing the same thing in Query Design.
- Query Design gives more control.



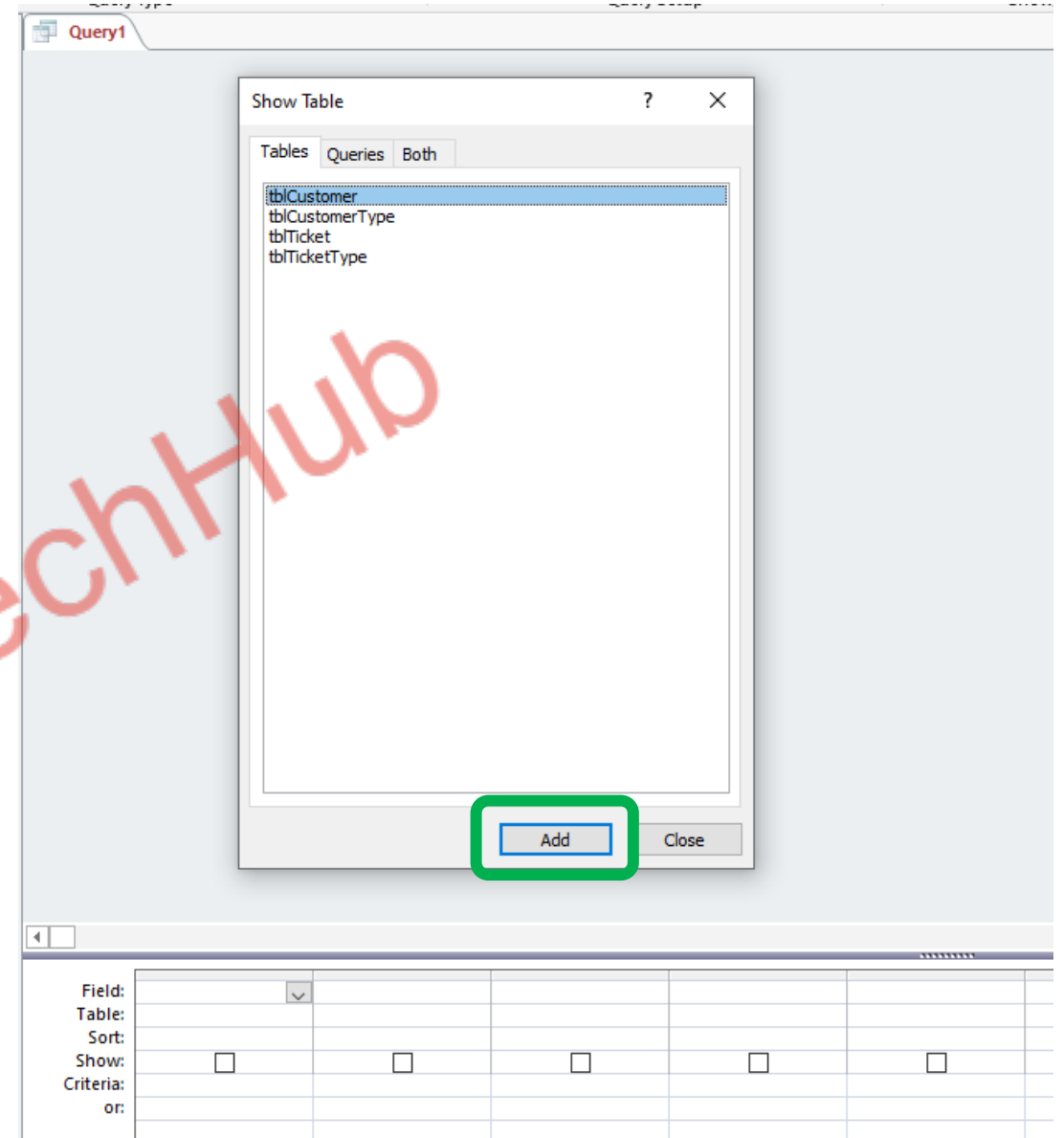
Query Design Part 2

- From here you add the table you want by selecting the table then clicking on Add.

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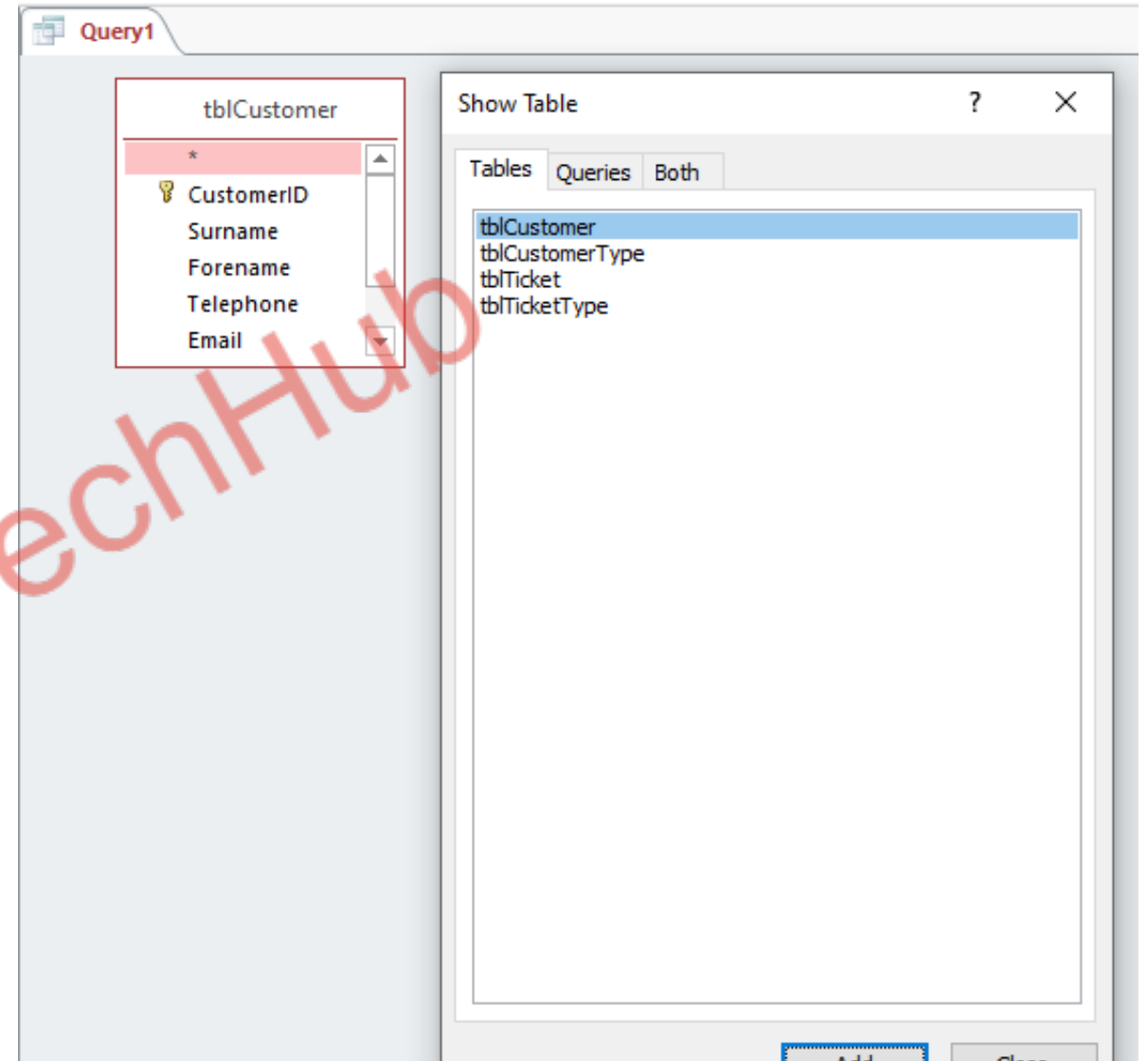
Query Design Part 3

- This is the new view after the table/s you want have been added.

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Query Design Part 4

We now "DOUBLE CLICK" on each of the column names to add them to the sections below.

Query1

tblCustomer

- * CustomerID
- Surname
- Forename
- Telephone
- Email
- CustomerTypeID
- PostCode

Before

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				
or:				

Query1

tblCustomer

- * CustomerID
- Surname
- Forename
- Telephone
- Email
- CustomerTypeID
- PostCode

After

Field:	CustomerID	Surname	Forename	Telephone
Table:	tblCustomer	tblCustomer	tblCustomer	tblCustomer
Sort:				
Show:	☒	☒	☒	☒
Criteria:				
or:				

Design Query Part 5

I added all the columns to match the first query I did.

Field:	CustomerID	Surname	Forename	Telephone	Email	CustomerTypeID	PostCode
Table:	tblCustomer	tblCustomer	tblCustomer	tblCustomer	tblCustomer	tblCustomer	tblCustomer
Sort:							
Show:	☒	☒	☒	☒	☒	☒	☒
Criteria:							
or:							

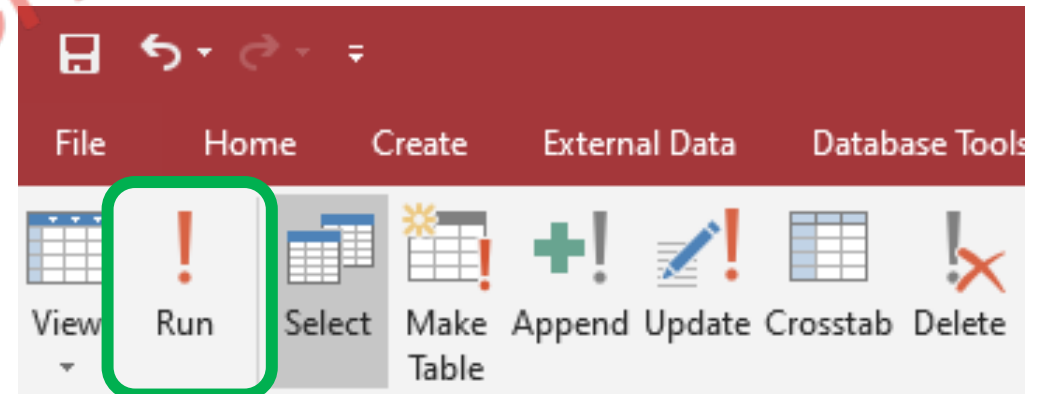
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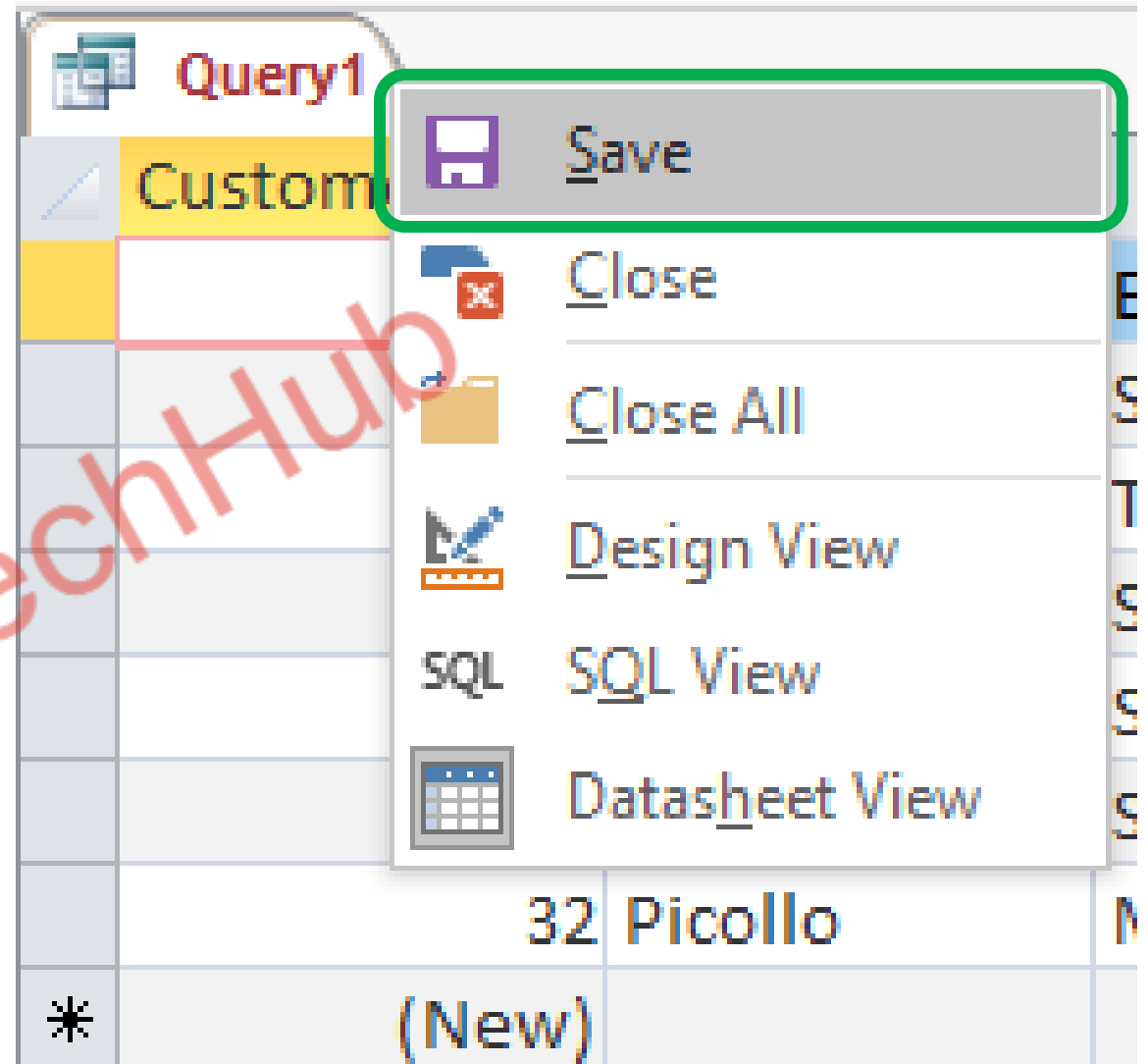
Design Query Part 6

- Once all of that is done.
- You need to click on "**Run!**" In the top left-hand corner.



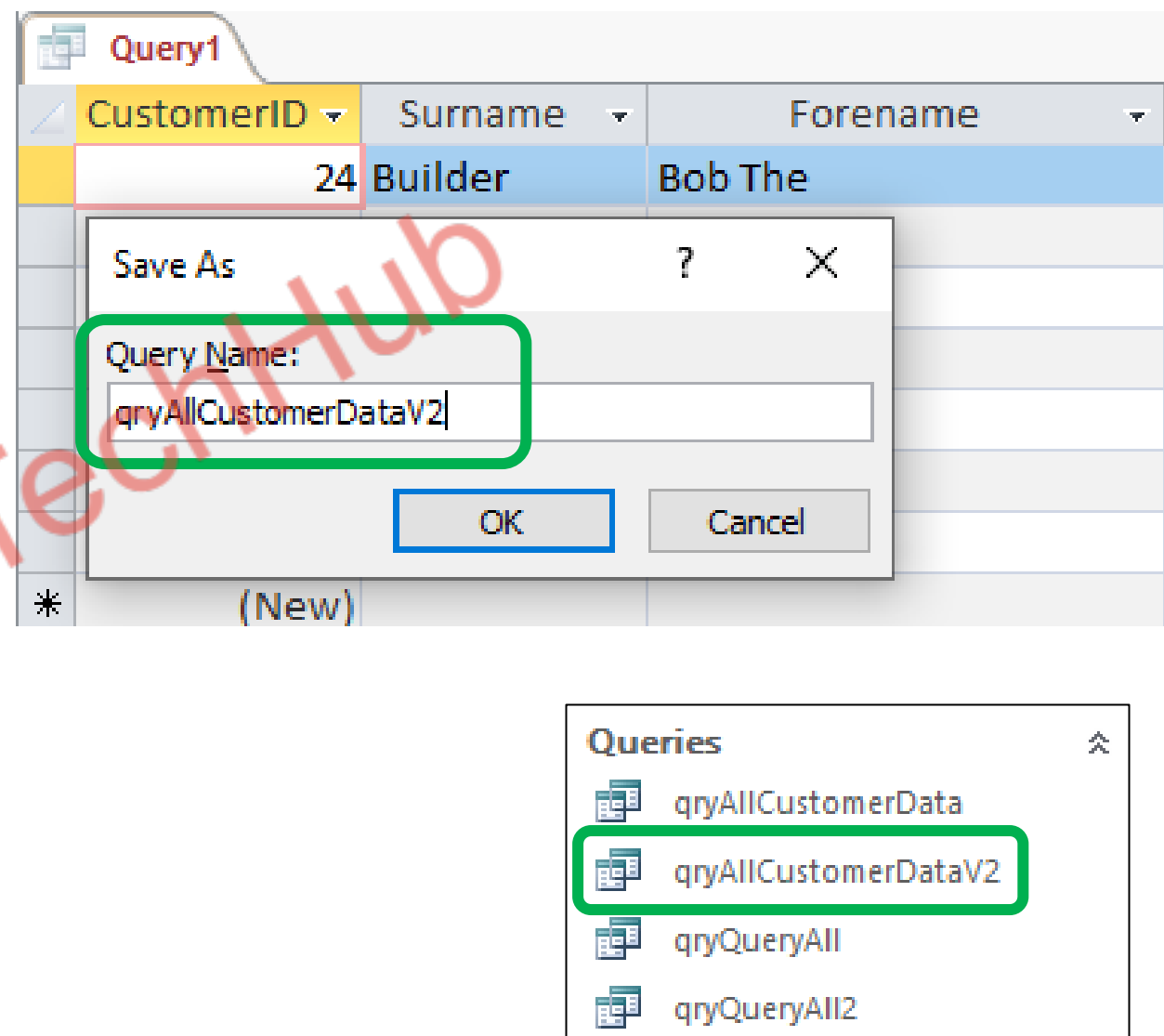
Design Query Part 7

- The same results are shown, but you **NEED** to save it manually and give it a name.
- "**RIGHT CLICK**" on the name "**Query1**" at the top of the window, the select "**Save**".



Design Query Part 8

- Give it a sensible name.
- QryAllCustomerDataV2.



Query

- From here on I will be using Design option as it offers more control.
- I will do the following Queries
 - Query with a criteria: Ascending
 - Query with a criteria: Descending
 - Query with multiple tables

Query Forename Ascending Order

- Customer Table.
- Columns needed: First name, last name, CustomerID.
- Sort Forename: "Ascending".
- Click Run.

Field:	CustomerID	Forename	Surname
Table:	tblCustomer	tblCustomer	tblCustomer
Sort:		"Ascending" 	
Show:	☒	☒	☒
Criteria:			
or:			

Query1		
CustomerID	Forename	Surname
24	Bob The	Builder
32	Mr	Picollo
31	Saiyan	Radditz
30	Son	Gohan
29	Son	Goku
27	Squarepant	SpongeBob
28	Tom	jerry

Query Surname Ascending Order

- Customer Table.
- Columns needed: First name, last name, CustomerID.
- Sort Surname: "Ascending".
- Click Run.

Field:	CustomerID	Forename	Surname
Table:	tblCustomer	tblCustomer	tblCustomer
Sort:			Descending
Show:	☒	☒	☒
Criteria:			
or:			



Query1		
CustomerID	Forename	Surname
27	Squarepant	SpongeBob
31	Saiyan	Radditz
32	Mr	Picollo
28	Tom	jerry
29	Son	Goku
30	Son	Gohan
24	Bob The	Builder

Query Section

- Be sure to save.
- This will be updated in the Query Section.

Queries



qryAllCustomerData



qryAllCustomerDataV2



qryFornameAscending

Query

- Let's now get queries with the names "Son".
- Son Gohan
- Son Goku

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Query Specific Names



Go to **Create**.



Go to **Query Design**.



Add Customer Table.



Add CustomerID, Forename, Surname.



Query Specific Names



Set Criteria under Forename as, "=Son".



You can set this to whatever you want for your database.

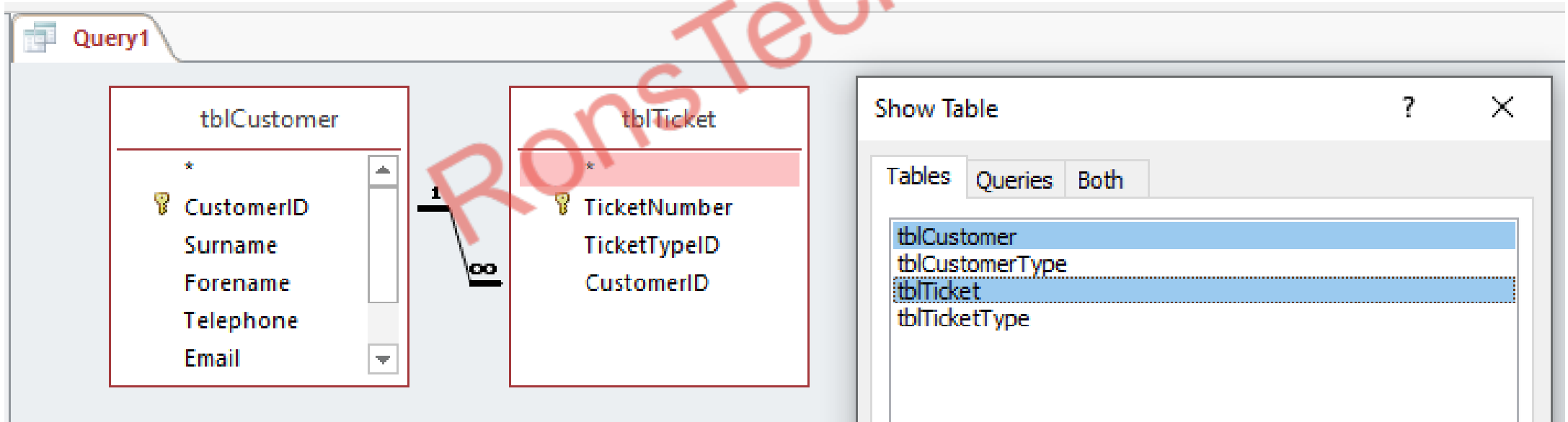
Field:	CustomerID	Forename	Surname
Table:	tblCustomer	tblCustomer	tblCustomer
Sort:			
Show:	☒	☒	☒
Criteria:		= "Son"	
or:			

Query1		
CustomerID	Forename	Surname
29	Son	Goku
30	Son	Gohan

Two Table Query

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- Relationships would need to have been done prior.
- This time we add two tables to the Query Design.



Two Table Query

- I have done CustomerID and TicketNumber from mine.

Field:	CustomerID	TicketNumber
Table:	tblCustomer	tblTicket
Sort:		
Show:	☒	☒
Criteria:		
or:		

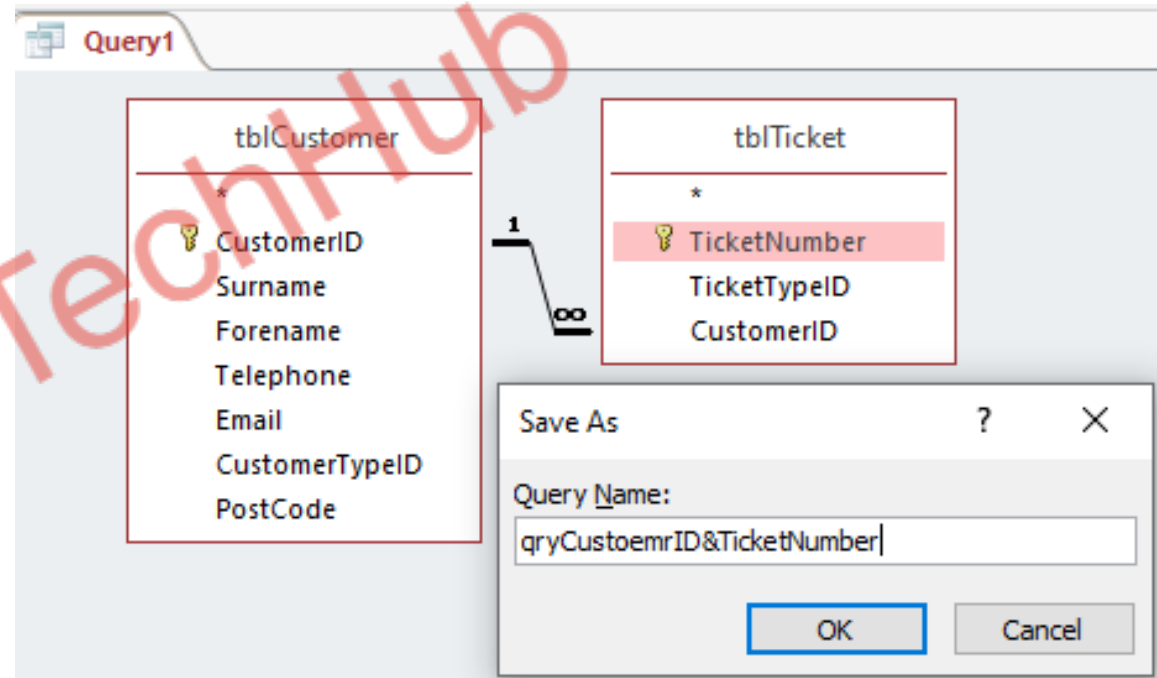
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Query Two Table

- Save it and view the results.



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Two Table Query

I will be using a table which was given to me to show results from now on.

Query1

tblSpeciality		tblStaff	
*		*	
SpecialityID		StaffID	
Speciality		Speciality	
		Surname	

Field:	Surname	Speciality	
Table:	tblStaff	tblSpeciality	
Sort:			
Show:	☒	☒	☐
Criteria:			

Query1

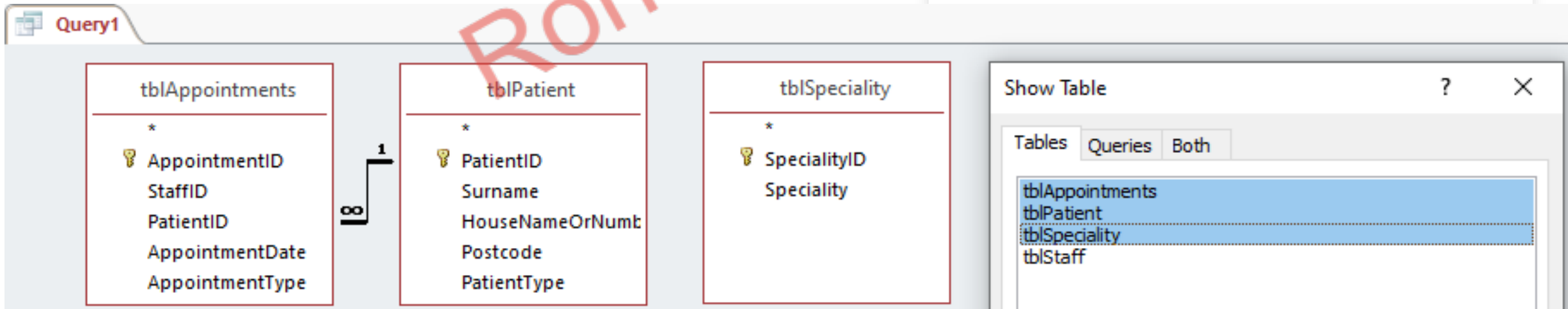
Surname	Speciality
Smith	GP
Jones	GP
Johnson	Nurse

Three Table Query

Tables: Patient, Appointment, Speciality.

Tables

	tblAppointments
	tblPatient
	tblSpeciality
	tblStaff



Three Table Query Results

- Useless information but still gives me the results I expected.

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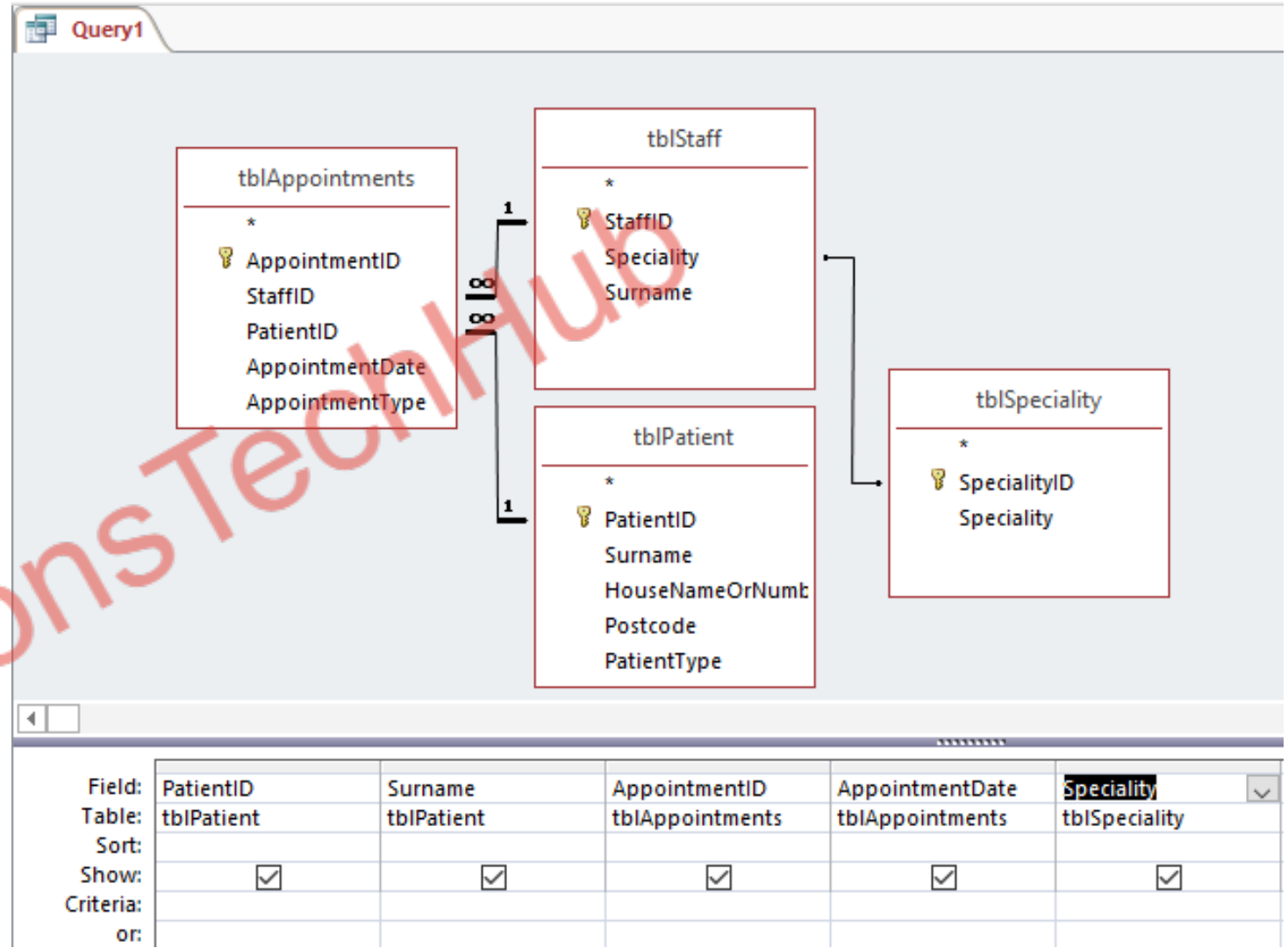
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Query1			
	Appointmer	PatientID	SpecialityID
	3	1	1
	3	1	2
	4	6	1
	4	6	2
	6	8	1
	6	8	2
	5	12	1
	5	12	2
	1	27	1
	1	27	2
	2	60	1
	2	60	2

Four Table Query Setup

- Here are all the details I chose for this query.
- No criteria, no sorting.



Four Table Query Results

Results for the previous query.

Query1					
	PatientID	Surname	Appointmer	AppointmentDate	Speciality
	27	Iqbal	1	27/07/2020	GP
	6	Mulley	4	28/07/2020	GP
	60	Choudrie	2	27/07/2020	GP
	12	Taylor	5	28/07/2020	GP
	1	Bailey	3	27/07/2020	Nurse
	8	Harris	6	28/07/2020	Nurse

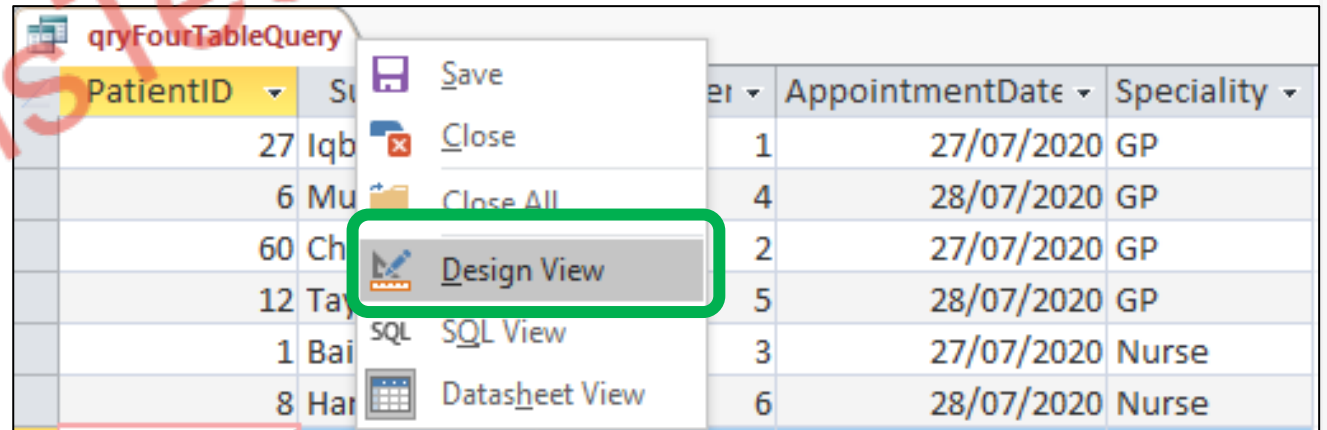
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Four Table Query Alphabetical Order

- Using the same query from the previous section, lets add the Ascending sort.
- Go to Design View of the same Query.



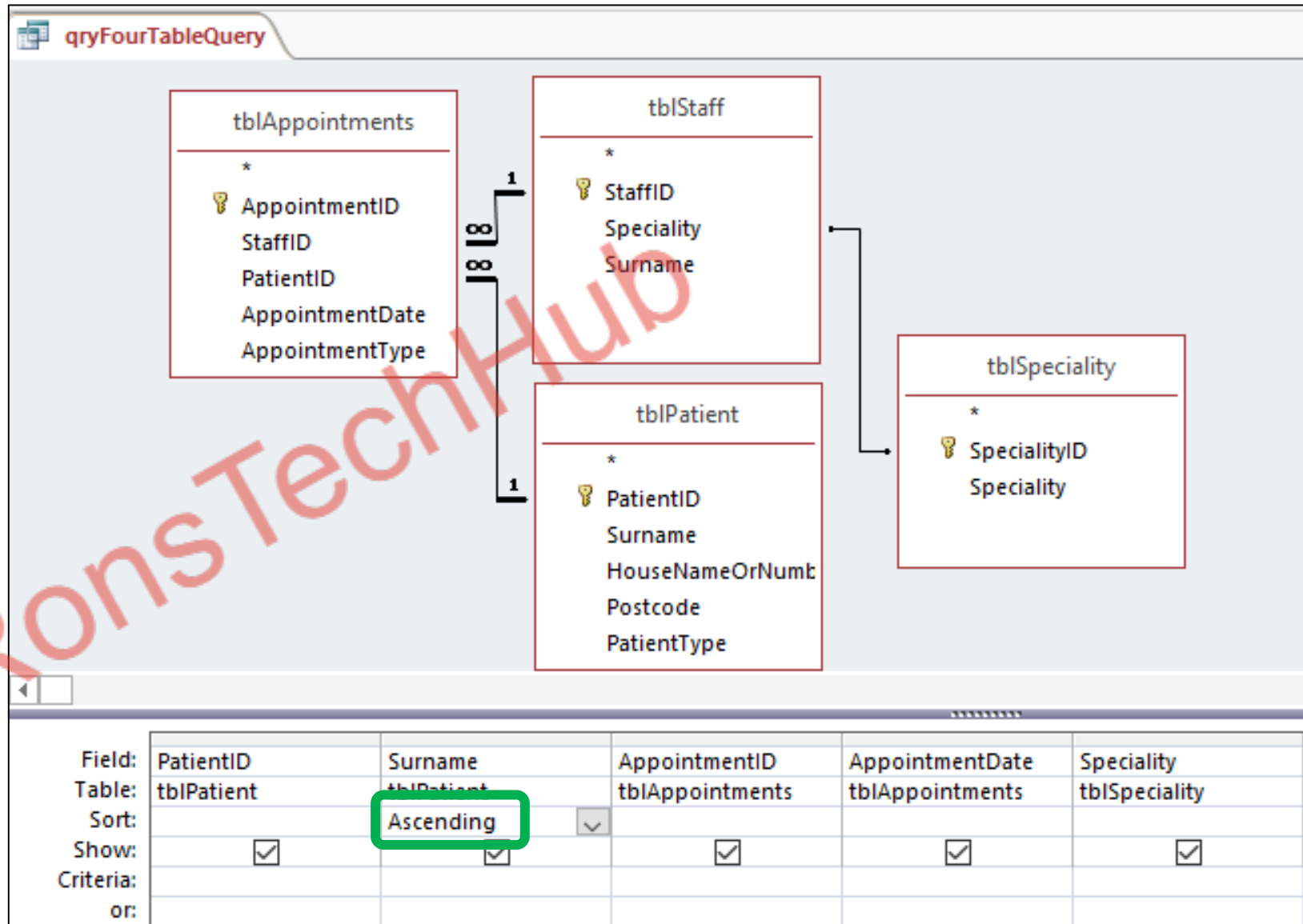
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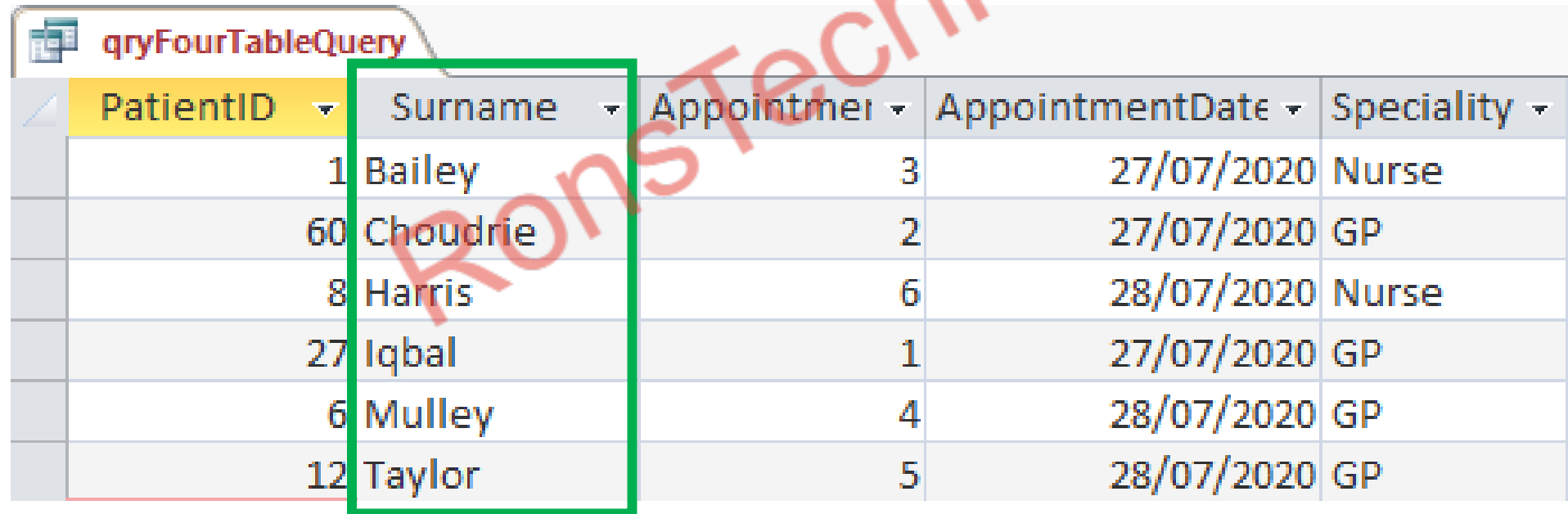
Four Table Query Setup

Add "**Ascending**" in sort for the "Surname".



Four Table Query Results

Here are the results.



PatientID	Surname	Appointmentmer	AppointmentDate	Speciality
1	Bailey	3	27/07/2020	Nurse
60	Choudrie	2	27/07/2020	GP
8	Harris	6	28/07/2020	Nurse
27	Iqbal	1	27/07/2020	GP
6	Mulley	4	28/07/2020	GP
12	Taylor	5	28/07/2020	GP

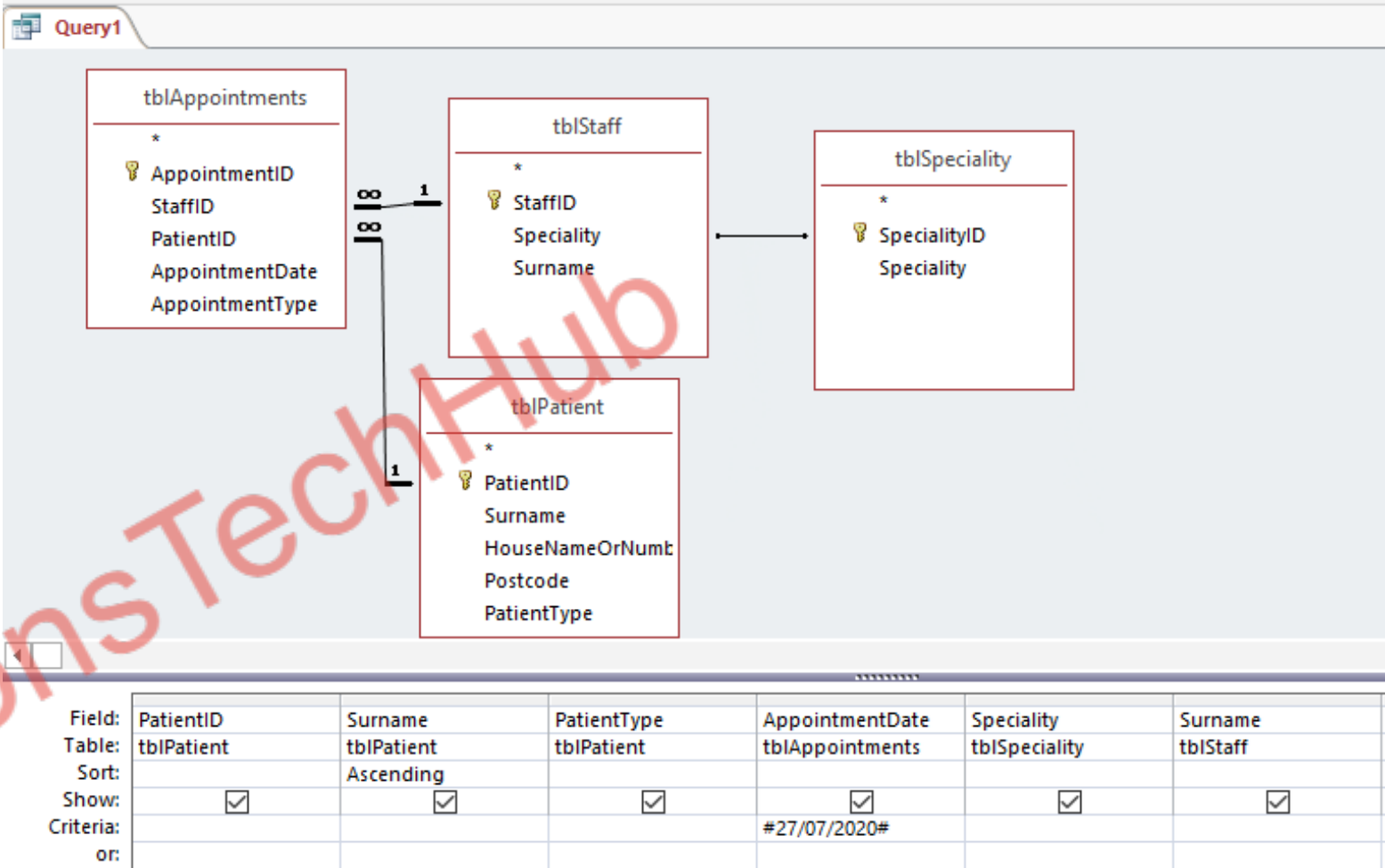
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Three Table Query with Ascending Names and Specific Date

- This is the setup I used.



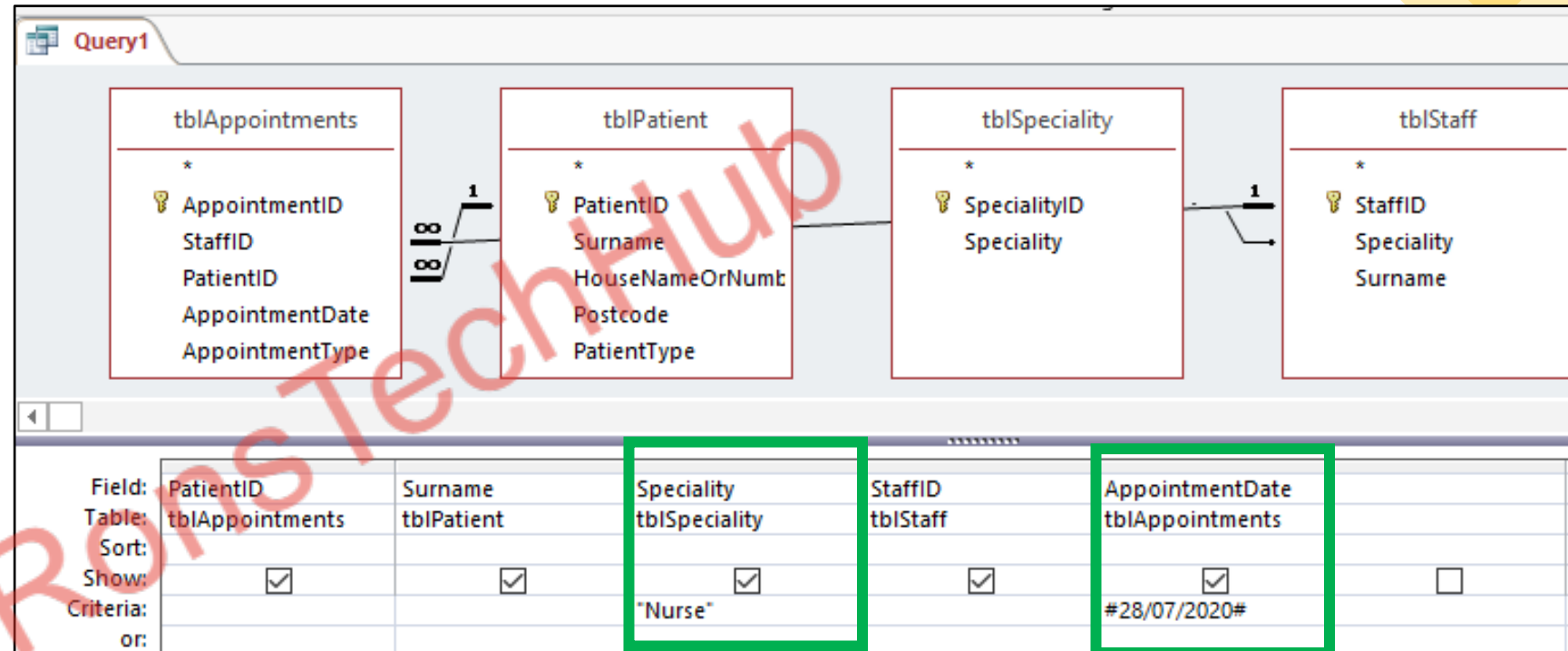
Three Table
Query
with Ascending
Names and
Specific Date

PatientID	tblPatient.S	PatientType	AppointmentDate	Speciality	tblStaff.Surr
1	Bailey	NHS	27/07/2020	Nurse	Johnson
60	Choudrie	Private	27/07/2020	GP	Jones
27	Iqbal	Private	27/07/2020	GP	Smith

- Names should be in ascending order.
- Should only show appointments from a specific date.

Query Nurse and Specific Date

- The setup is at the top.
- Results at the bottom.



qryNurseand28072020

PatientID	Surname	Speciality	StaffID	AppointmentDate
8	Harris	Nurse	3	28/07/2020

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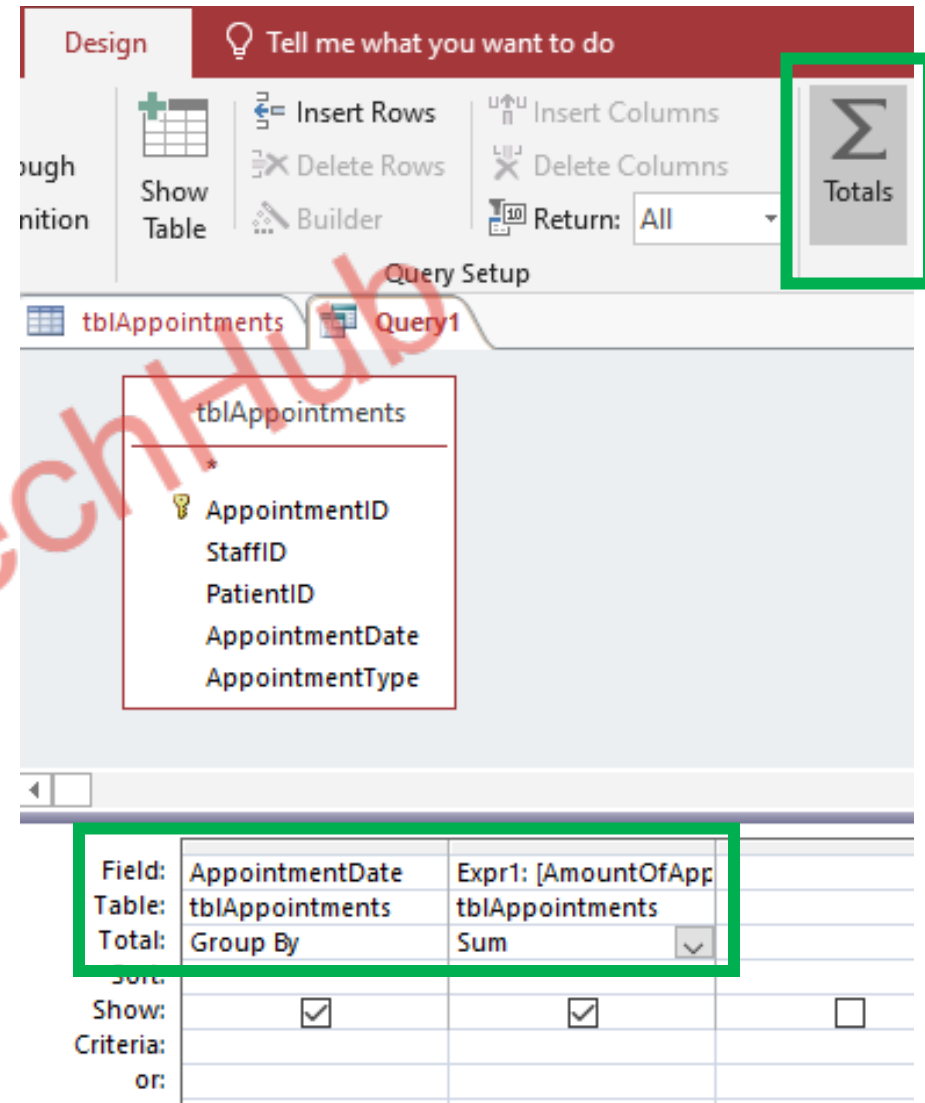
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Query Calculate

- Make sure to click on totals at the top.
- Total: Group By
- Total: Sum

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Specific Doctor Appointments Query

- Tables: Staff and Appointments.
- Columns Staff: Surname
- Columns Appointments: Appointment Type
- Criteria: Smith (The doctor we want to check for).
- Used Sum and Group By.

Specific Doctor Appointments Query Setup

This is the setup.



Query1 X

tblStaff

*

StaffID

Speciality

Surname

tblAppointments

*

AppointmentID

StaffID

PatientID

AppointmentDate

AppointmentType

1 ∞

Field:	Surname	AppointmentType
Table:	tblStaff	tblAppointments
Total:	Group By	Sum
Sort:		
Show:	☒	☒
Criteria:	"Smith"	
or:		

Specific Doctor Appointments Query Results

These are the results.

Surname	SumOfAppc
Smith	2

All Access Objects

Search...

Tables

- tblAppointments
- tblPatient
- tblSpeciality
- tblStaff

Queries

- qrySmithNumbers

Calculate Cost Query

- Tables: Patient and Appointments.
- Columns from Patient: Patient Type
- Columns from Appointments: Date, **Type x 2**
- Criteria: NHS or Private (Private is paid)
- Used Sum and Group By.

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Calculate Cost Query Setup

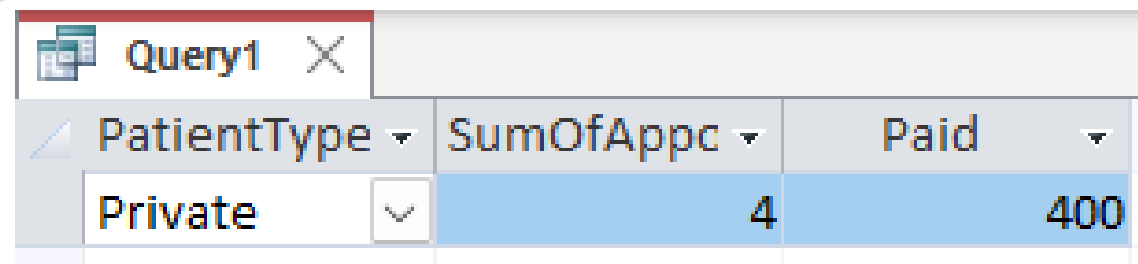
- Setup for query.
- Field Name:
 - Paid: Sum([AppointmentType]*100).

The screenshot shows the Microsoft Access Query1 window. At the top, there is a relationship diagram between two tables: **tblAppointments** and **tblPatient**. **tblAppointments** has fields: AppointmentID (primary key), StaffID, PatientID, AppointmentDate, and AppointmentType. **tblPatient** has fields: PatientID (primary key), Surname, HouseNameOrNumb, Postcode, and PatientType. A one-to-many relationship is shown between PatientID in tblAppointments and PatientID in tblPatient, with a '1' on the PatientID side and an infinity symbol on the AppointmentID side.

Below the relationship diagram is the query design grid, which is highlighted with a green border. It shows the setup for a query named 'Paid'.

Field:	PatientType	AppointmentType	Paid: Sum([AppointmentType]*100)
Table:	tblPatient	tblAppointments	
Total:	Group By	Sum	Expression
Sort:			
Show:	☒	☒	☒
Criteria:	= "Private"		

Calculate Cost Query Results



PatientType	SumOfAppc	Paid
Private	4	400

What is a Report?

A way to show your answers from a query in a neat format.

Queries must be done first.



Creating A Report



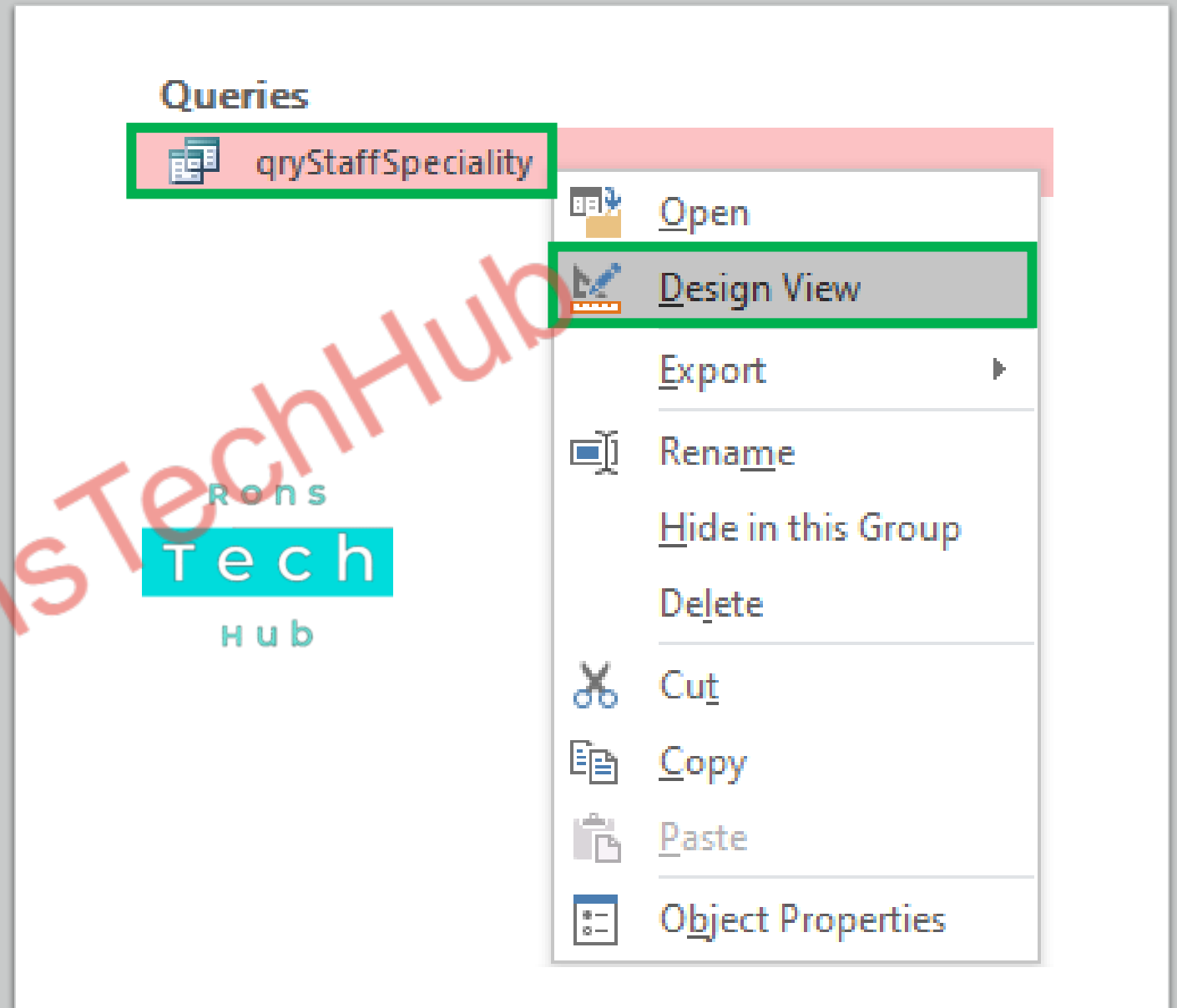
Using simple query (All from two tables).



I will be using Design View (this will be used most).

Edit Query Before Report

- Your query data will simply be shown.
- If you want ascending/descending order change it from the query you are using.
- Right click on the query and go to design view to make changes.



Create Report Part 1

Click on the query you want to use from the left-hand pane.

All Access Objects

Search...

Tables



tblAppointments



tblPatient



tblSpeciality



tblStaff

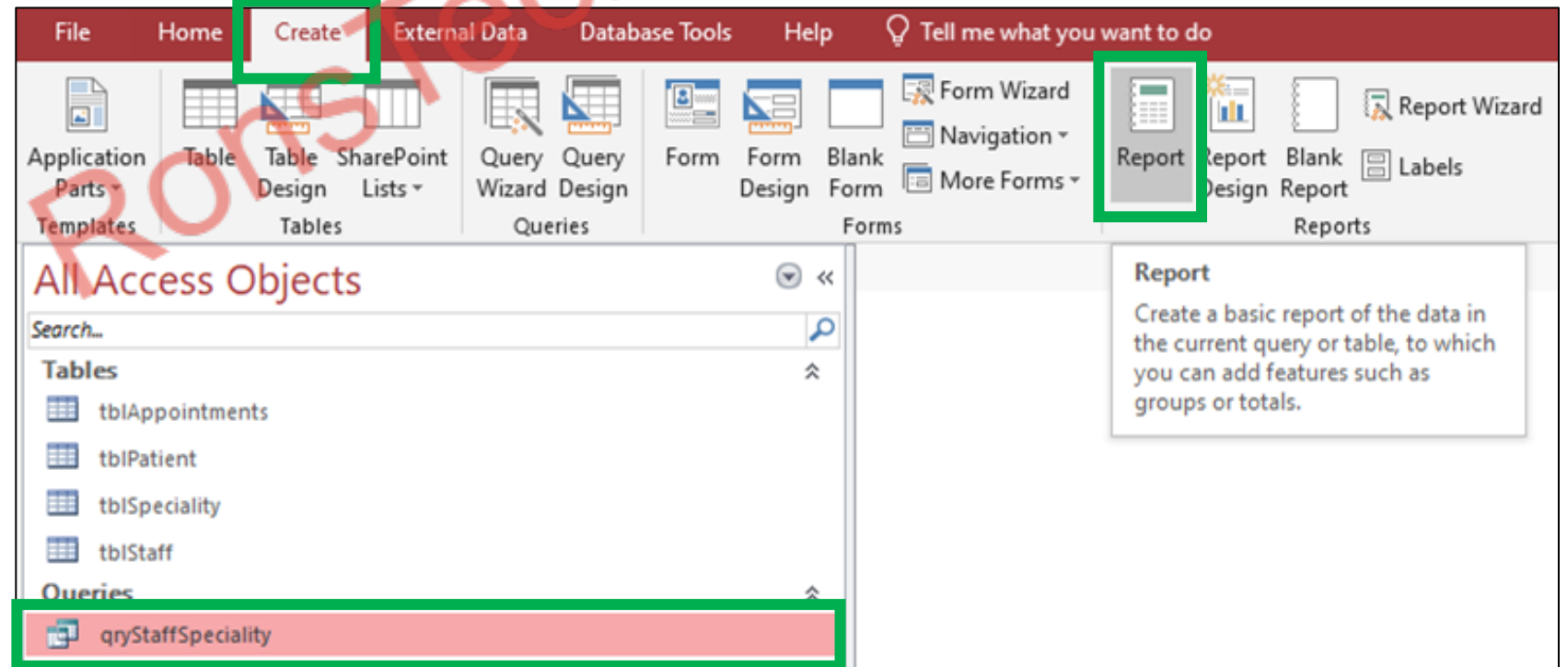
Queries



qryStaffSpeciality

Create Report Part 2

- Click on Create on the top banner.
- Then click on "**Report**".



Layout View

qryStaffSpeciality

qryStaffSpeciality

Surname	Speciality
Smith	GP
Jones	GP
Johnson	Nurse

3

Page 1 of 1

Property Sheet

Selection type: Report

A Z ↓

Report

▼

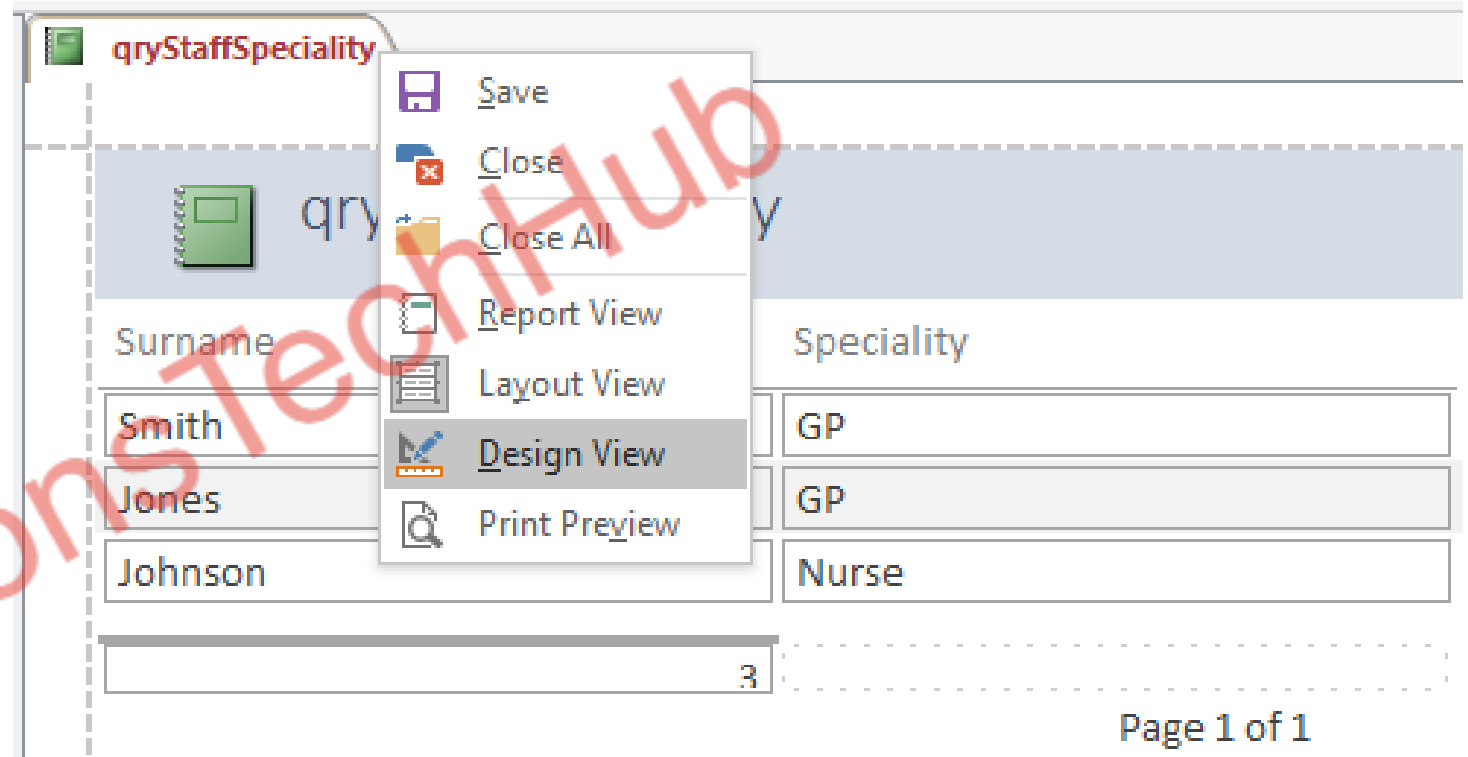
Format
 Data
 Event
 Other
 All

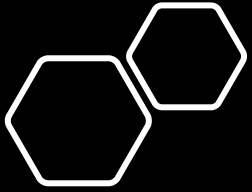
Record Source	qryStaffSpeciali... ▼
Filter	
Filter On Load	No
Order By	
Order By On Load	Yes
Allow Filters	Yes

Create Report

Part 3

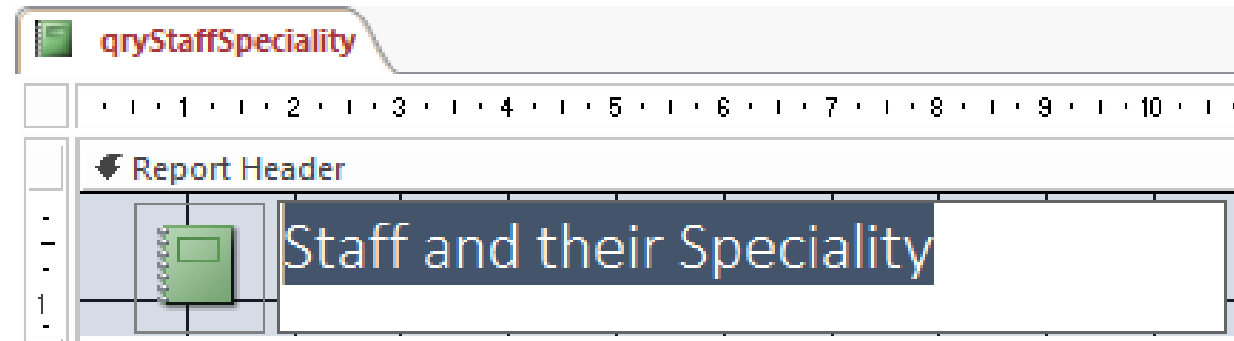
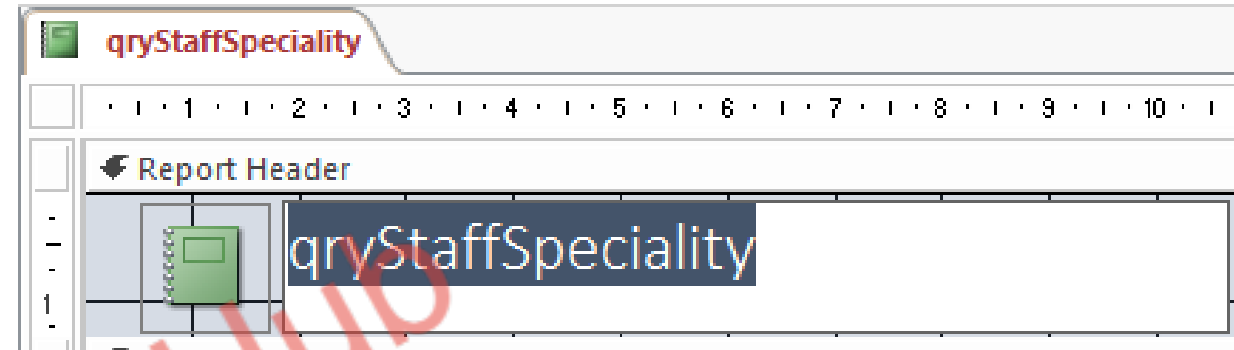
- To make changes go to Design View of the Report.





Create Report Part 4

- You might want to change the text in the Header.



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Create Report Part 5

- Once saved the report should show up in the section below.

All Access Objects

Search...

Tables



tblAppointments



tblPatient



tblSpeciality



tblStaff

Queries



qryStaffSpeciality

Reports



ReportStaffSpeciality

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Create Report Part 6 - Output

- This is what the report will look like if no changes were made.

ReportStaffSpeciality

 **Staff and their Speciality** 09 May 2022
10:05:21

Surname	Speciality
Smith	GP
Jones	GP
Johnson	Nurse

Page 1 of 1

Reports



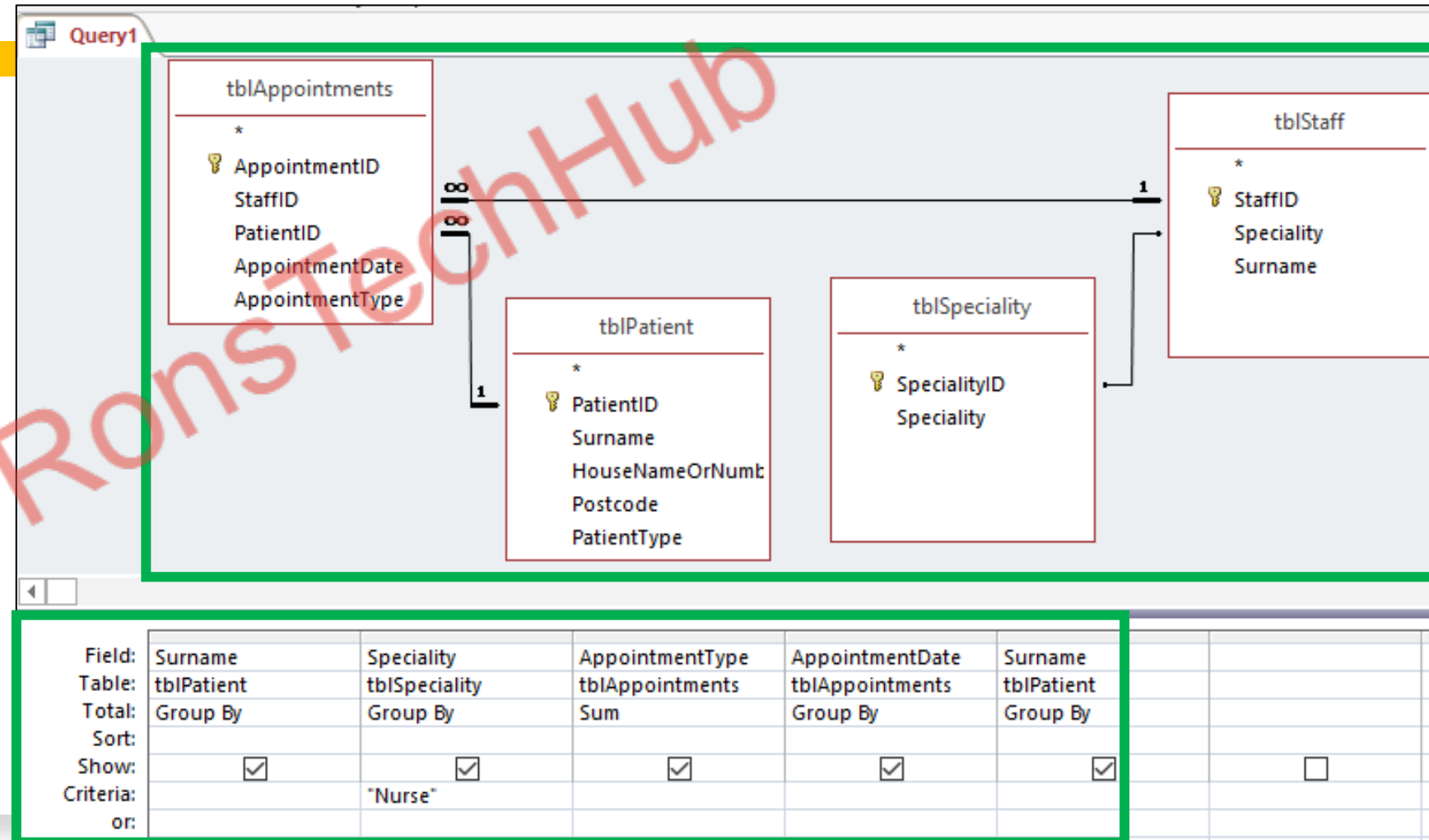
I will only do one more report.



Reports only show what is already in the query results.

Final Report Part 1

- This will be a four table query.
- The setup.

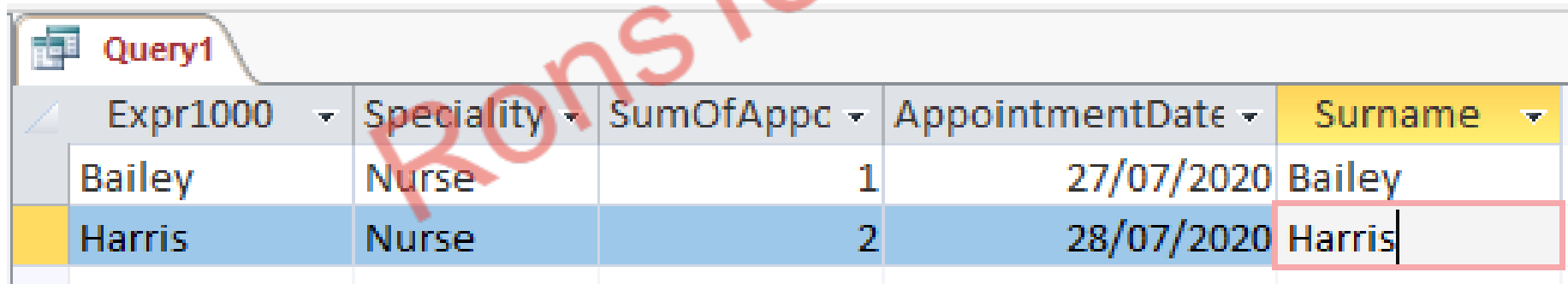


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Final Report Part 2



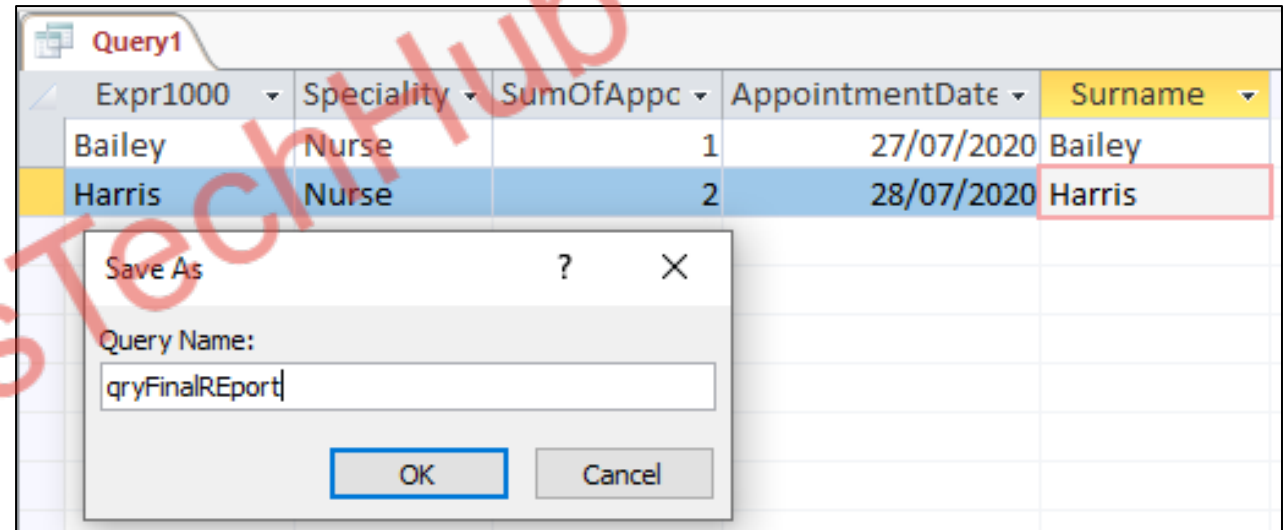
A screenshot of a Microsoft Access query result grid titled 'Query1'. The grid contains five columns: 'Expr1000', 'Speciality', 'SumOfAppc', 'AppointmentDate', and 'Surname'. The 'Surname' column header is highlighted in yellow. There are two data rows. The first row has 'Bailey' in the 'Expr1000' column, 'Nurse' in 'Speciality', '1' in 'SumOfAppc', '27/07/2020' in 'AppointmentDate', and 'Bailey' in 'Surname'. The second row has 'Harris' in 'Expr1000', 'Nurse' in 'Speciality', '2' in 'SumOfAppc', '28/07/2020' in 'AppointmentDate', and 'Harris' in 'Surname'. The 'Harris' row is highlighted in blue, and its 'Surname' cell is also outlined with a red border. A large, diagonal red watermark 'RonsTechHub' is overlaid across the table.

Expr1000	Speciality	SumOfAppc	AppointmentDate	Surname
Bailey	Nurse	1	27/07/2020	Bailey
Harris	Nurse	2	28/07/2020	Harris

The output.

Final Report Part 3

- Save the report.



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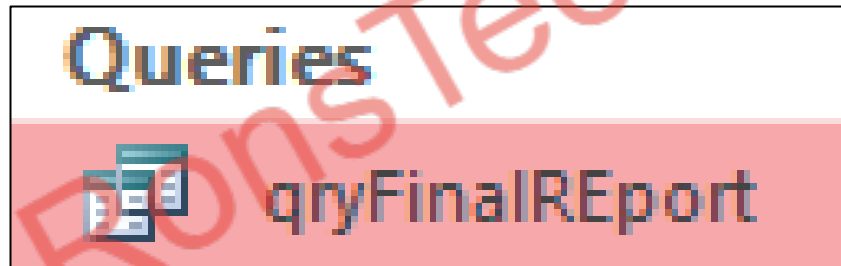
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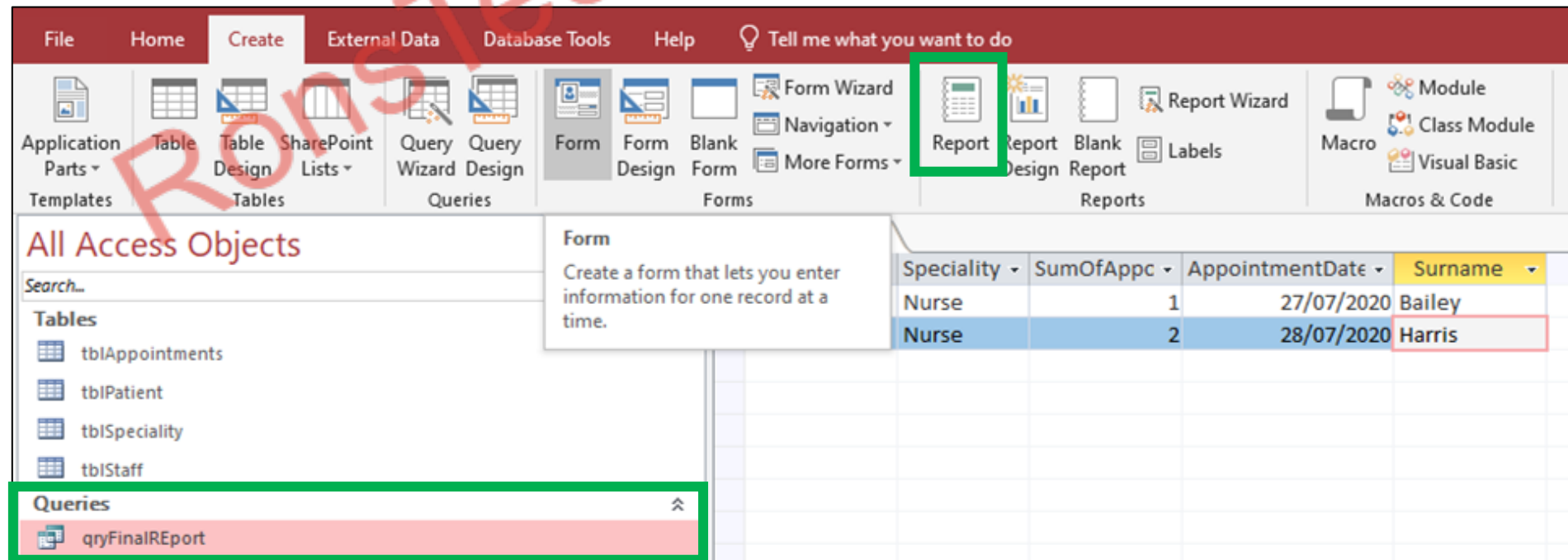
Final Report Part 4

- Click on the name of the report from the left hand side.



Final Report Part 5

- Go to Create on the top banner.
- Go over to Report and Click on report.



Final Report Part 6

This is what you will see.

qryFinalREport				
09 May 2022 11:39:42				
Expr1000	Speciality	SumOfAppointmentType	AppointmentDate	Surname
Bailey	Nurse	1	27/07/2020	Bailey
Harris	Nurse	2	28/07/2020	Harris
Page 1 of 1				

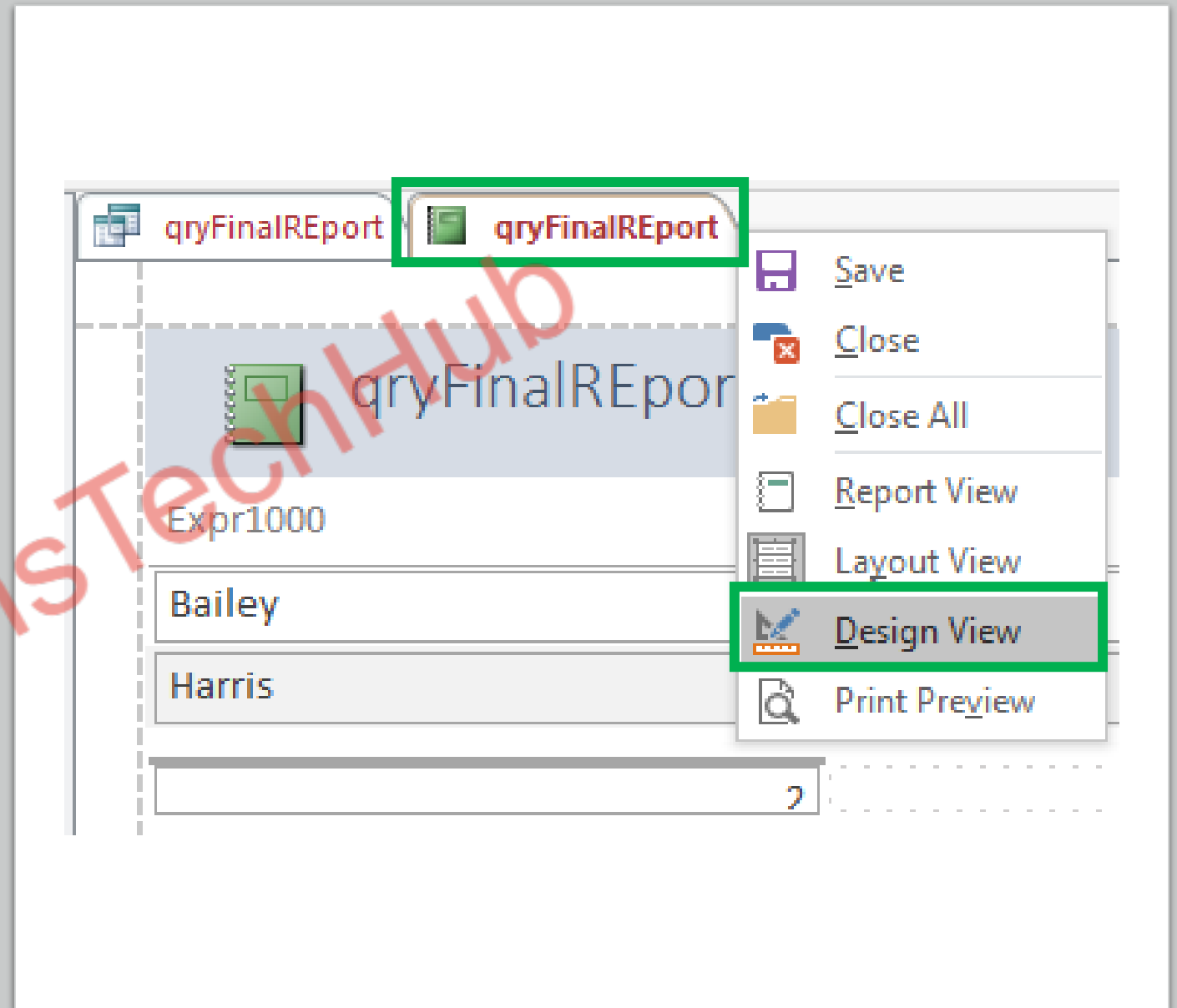
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Final Report Part 7

- Go to Design View from here and change the title of the report.
- Right click on the name at the top.
- Go to Design View.



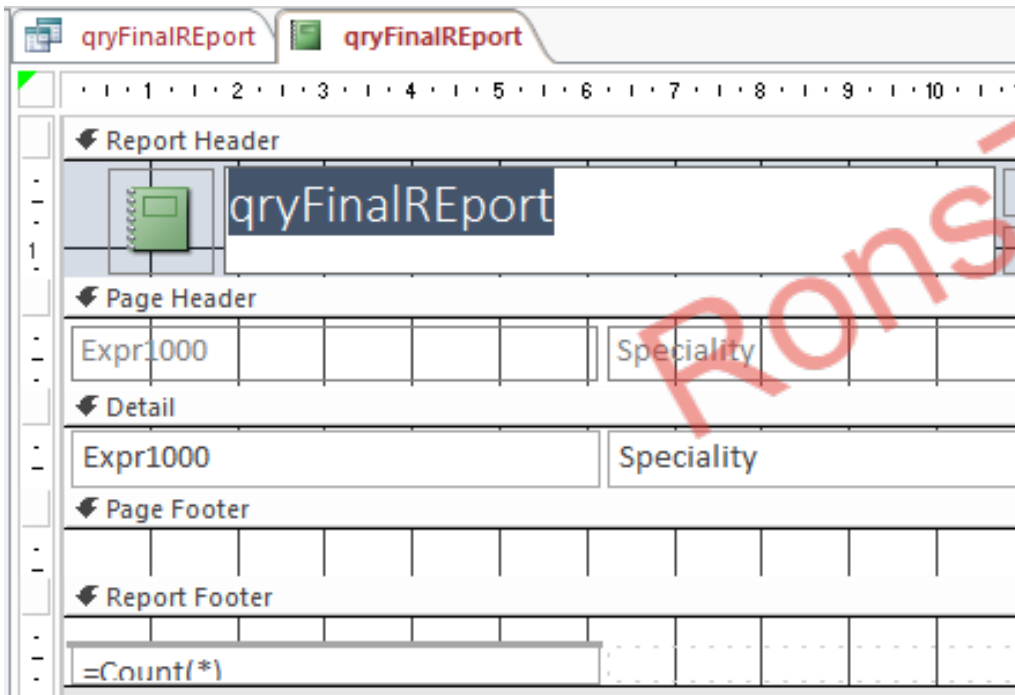
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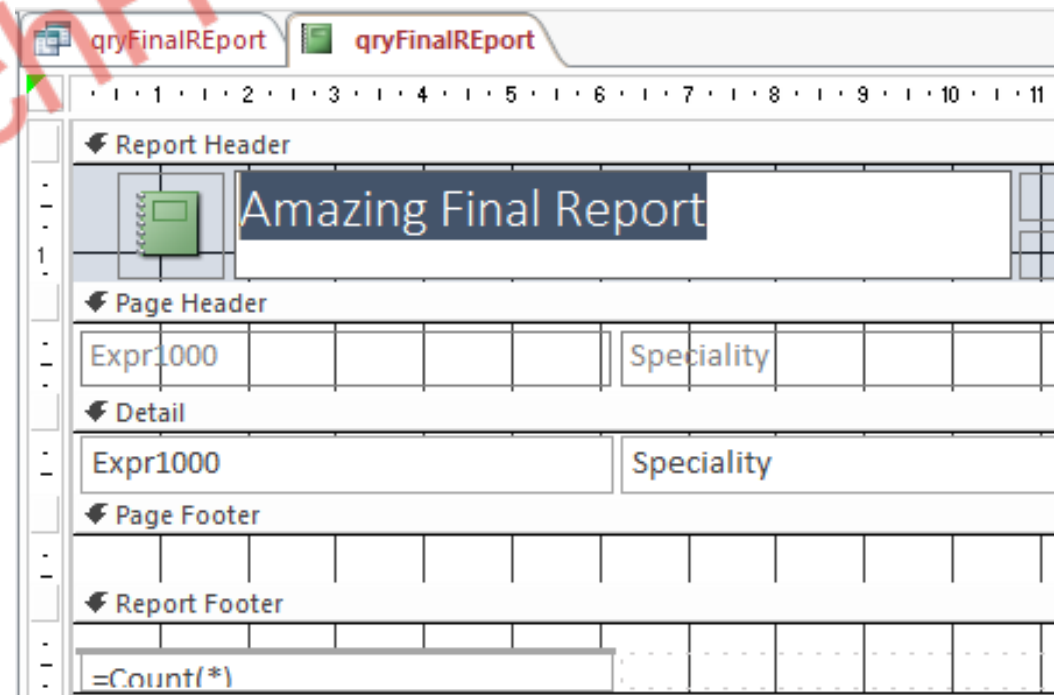
Final Report Part 8

Before and after the name change.



This screenshot shows the design view of a report named 'qryFinalREport'. The report has a standard layout with sections for Report Header, Page Header, Detail, Page Footer, and Report Footer. The Report Header section contains a single text box with the text 'qryFinalREport'. The Page Header section contains two text boxes: 'Expr1000' and 'Speciality'. The Detail section contains two text boxes: 'Expr1000' and 'Speciality'. The Page Footer section is empty. The Report Footer section contains a single text box with the text '=Count(*)'. A large red watermark 'RonsTechHub' is visible across the center of the image.

Report Header										
qryFinalREport										
Page Header										
Expr1000					Speciality					
Detail										
Expr1000					Speciality					
Page Footer										
Report Footer										
=Count(*)										

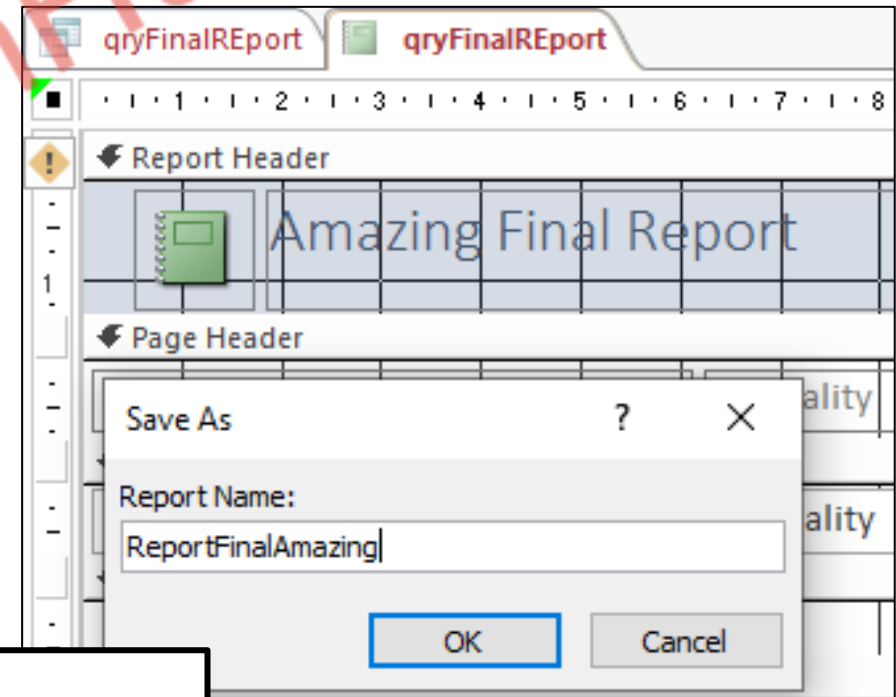
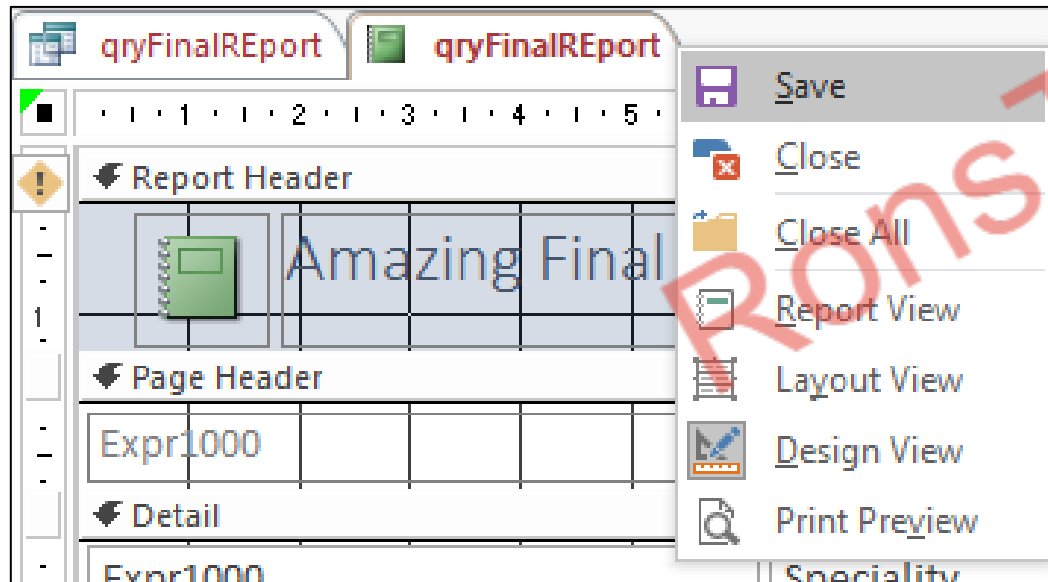


This screenshot shows the design view of the same report after a name change. The report is still named 'qryFinalREport' in the title bar, but the text in the Report Header section has been changed to 'Amazing Final Report'. All other sections and content remain the same as in the previous screenshot. A large red watermark 'RonsTechHub' is visible across the center of the image.

Report Header										
Amazing Final Report										
Page Header										
Expr1000					Speciality					
Detail										
Expr1000					Speciality					
Page Footer										
Report Footer										
=Count(*)										

Final Report Part 9

Save the report.



Reports



ReportFinalAmazing

Parts A and B

- Once Part A is done you will do Part B.
- They are totally different sections.
- In Part B, you are "given" a database to work with.
- This section is mainly forms.

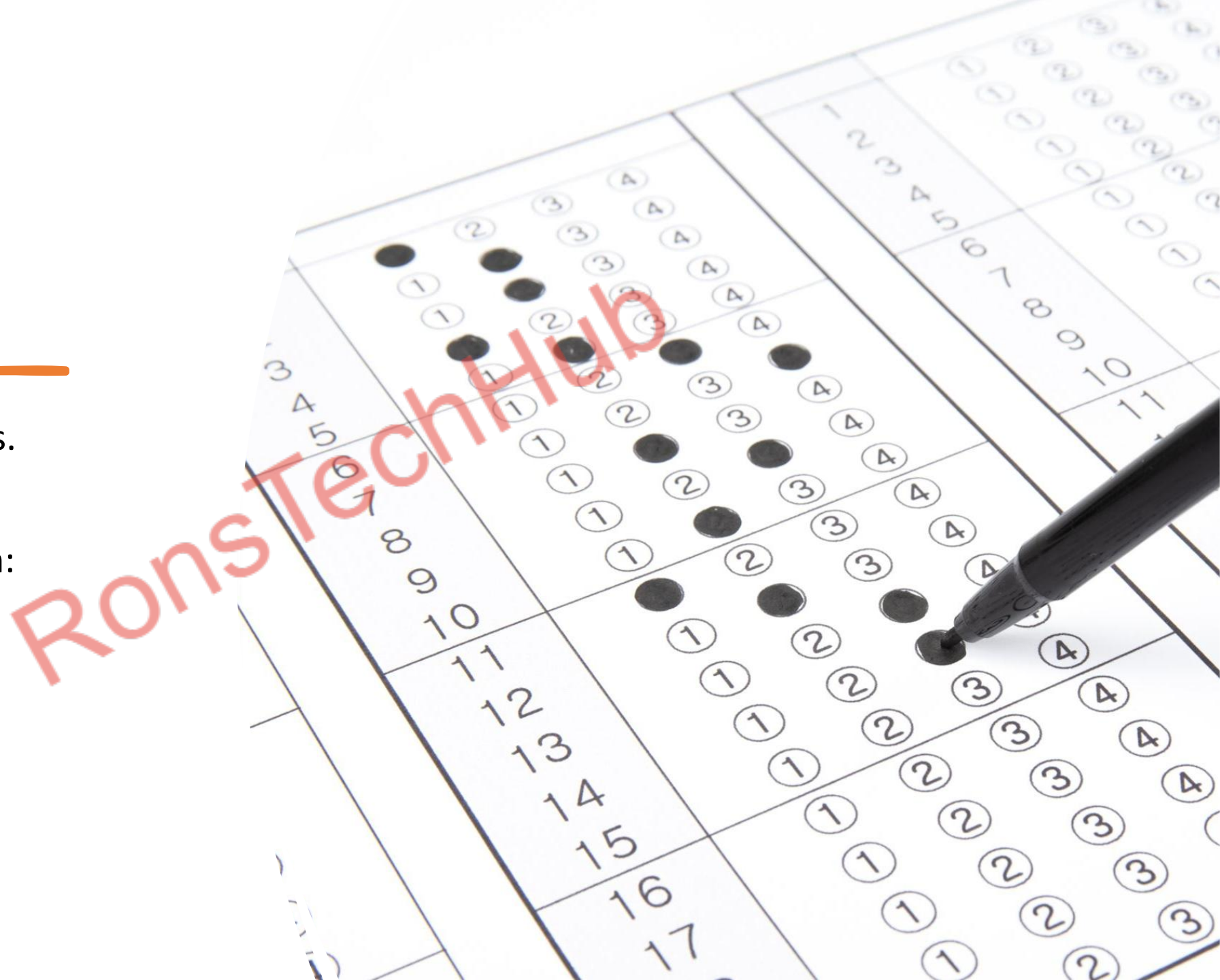
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Templates

- You are given templates.
- Activity templates given:
 - Activity 2
 - Activity 3
 - Activity 4
 - Activity 6
 - Activity 7



Submission Files and Folders



Two folders needed.



Part A and Part B.



Part A Folder name:
"12345_F180542_Smith_J_PartA"



Part B Folder name:
"12345_F180542_Smith_J_PartB"

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Part A Files For Submission

Taken from 2021 paper.

The 6 PDF documents should use these file names:

Activity 1:	activity1_[Registration number #]_[surname]_[first letter of first name]
Activity 2:	activity2_[Registration number #]_[surname]_[first letter of first name]
Activity 3:	activity3_[Registration number #]_[surname]_[first letter of first name]
Activity 3d:	activity3d_[Registration number #]_[surname]_[first letter of first name]
Activity 4:	activity4_[Registration number #]_[surname]_[first letter of first name]
Activity 5:	activity5_[Registration number #]_[surname]_[first letter of first name]

R O N S

T e c h

h u b

Part B Files For Submission

Taken from 2021 paper.

The 3 PDF documents should use these file names:

Activity 6:	activity6_[Registration number #]_[surname]_[first letter of first name]
Activity 7:	activity7_[Registration number #]_[surname]_[first letter of first name]
Activity 8:	activity8_[Registration number #]_[surname]_[first letter of first name]

R O N S

T e c h

h u b

Naming Files For Submission

- activity1_215487_Grant_R

Activity 1: activity1_[Registration number #]_[surname]_[first letter of first name]

R O N S

T e c h

h u b

Exporting RTF/DOC as PDF

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You are given rtf.



This will open in Microsoft Word.



You will need to export as a pdf.

Exporting as PDF

1

Go to File.

2

Export.

3

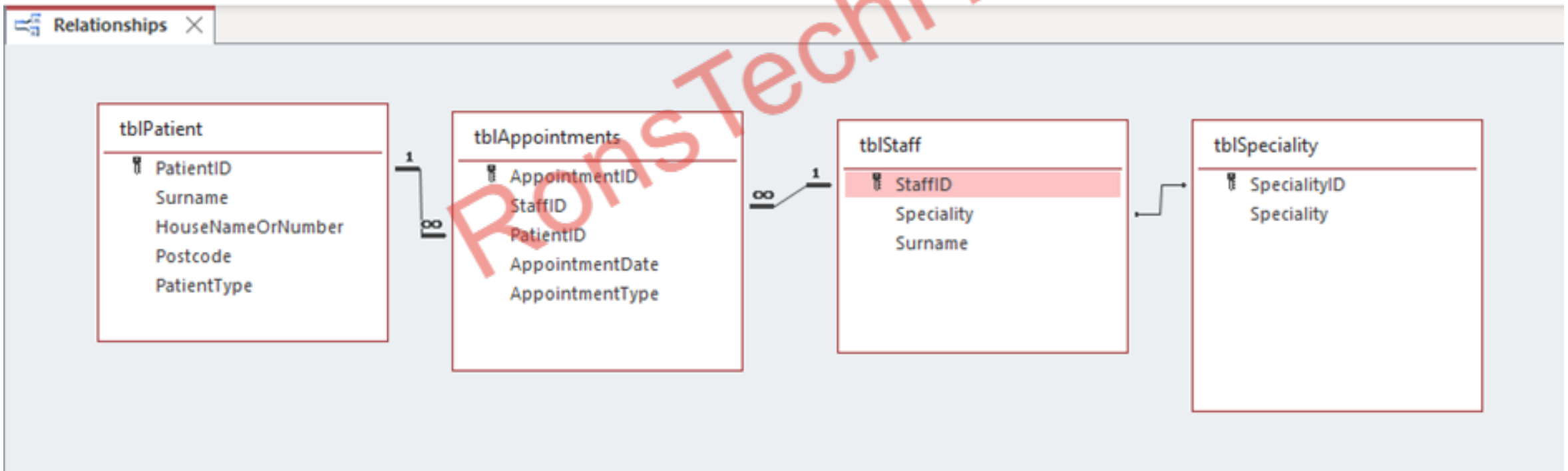
Export as PDF.

4

Choose the location to save it (Part A folder or Part B folder).

Activity 1 - Evidence

- Relationship Diagram
- Go to Database Tools
- Click on Relationships



Activity 2 - Evidence

- The table structure.
- The validation rules.

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Activity 3 - Evidence

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Activity 4 - Evidence

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Activity 5 - Evidence

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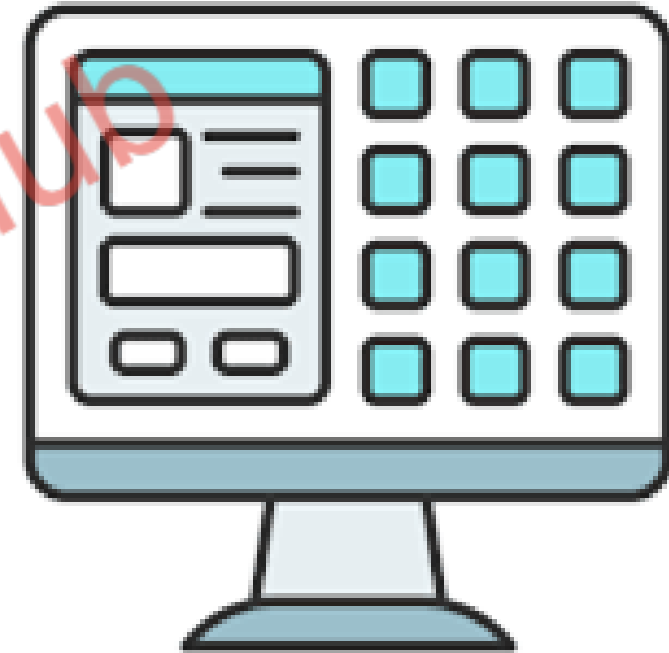
Part B – Forms

- This is mainly going to be Forms.
- A form is a user interface for the database.
- We do not want normal people messing with the tables.

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GUI

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YouTube Access Video Playlist

- https://www.youtube.com/watch?v=8m5r52RzFgQ&list=PLd8uNPGNmEMcUoCSk-r1ulpVd_DpGEQnN

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