A1.3

Forms of notation used to design IT systems.

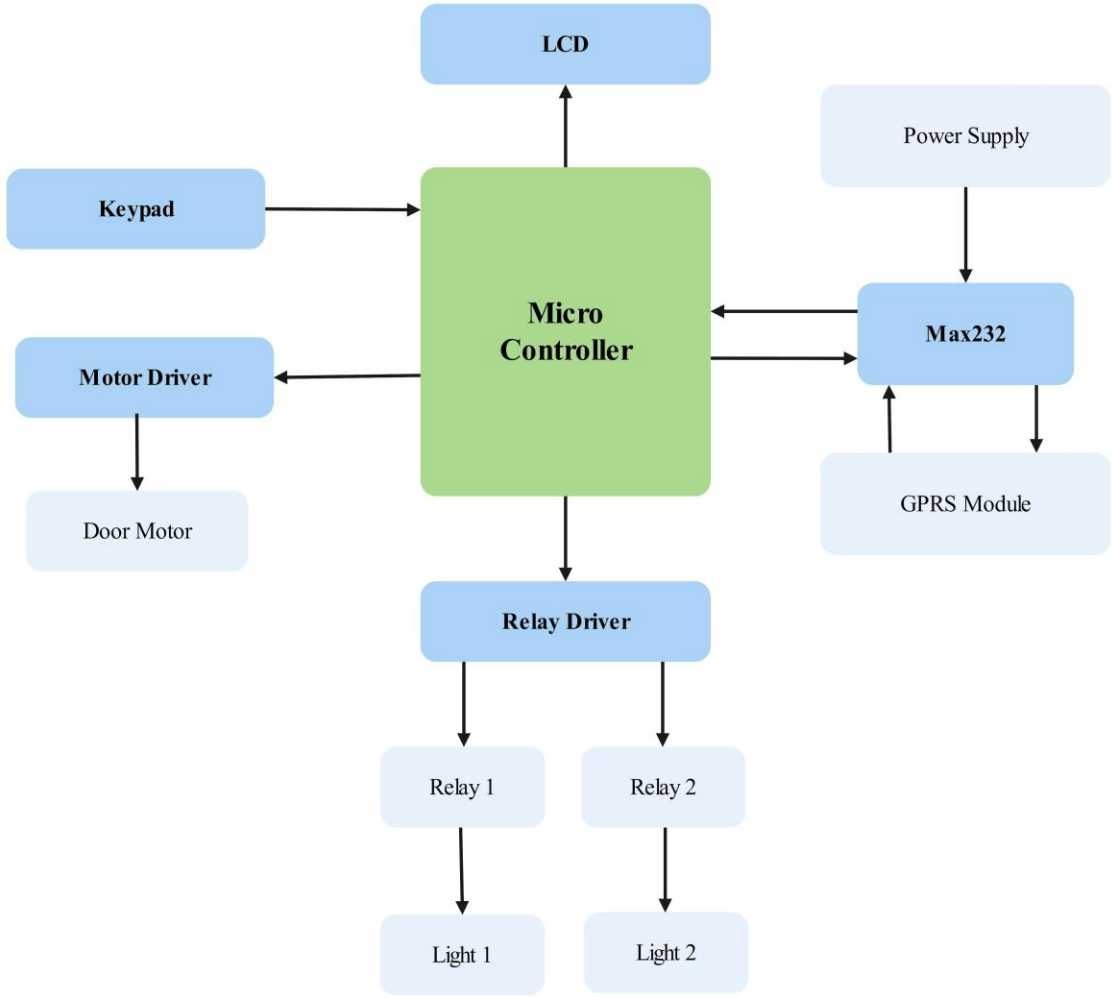
System Diagrams

A system diagram is a visual representation that shows the components of a system and how they are connected.

Block Diagrams, most common for IT at this level. Uses simple blocks to show the main parts of a system and how they connect

Network Diagram, shows how devices in a computer network are connected.

Data Flow Diagram, shows the movement of data through a system.



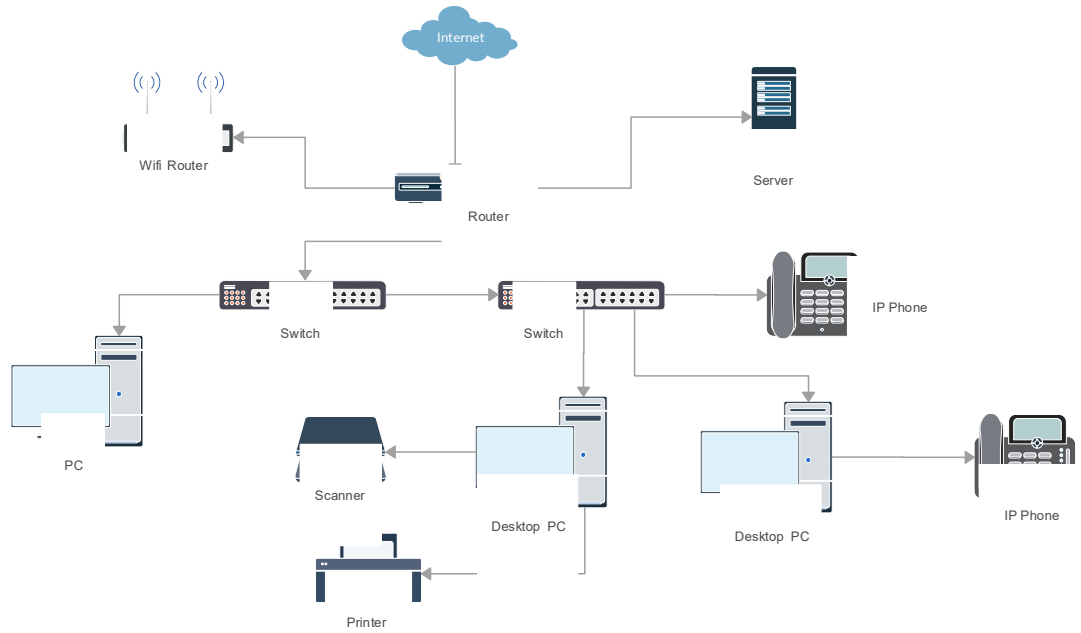
Block Diagram Example

- https://images.wondershare.com/edrawmax/article2023/block-diagram/microcontroller-block-diagram.jpg

Network Diagram Example

Usage Guide

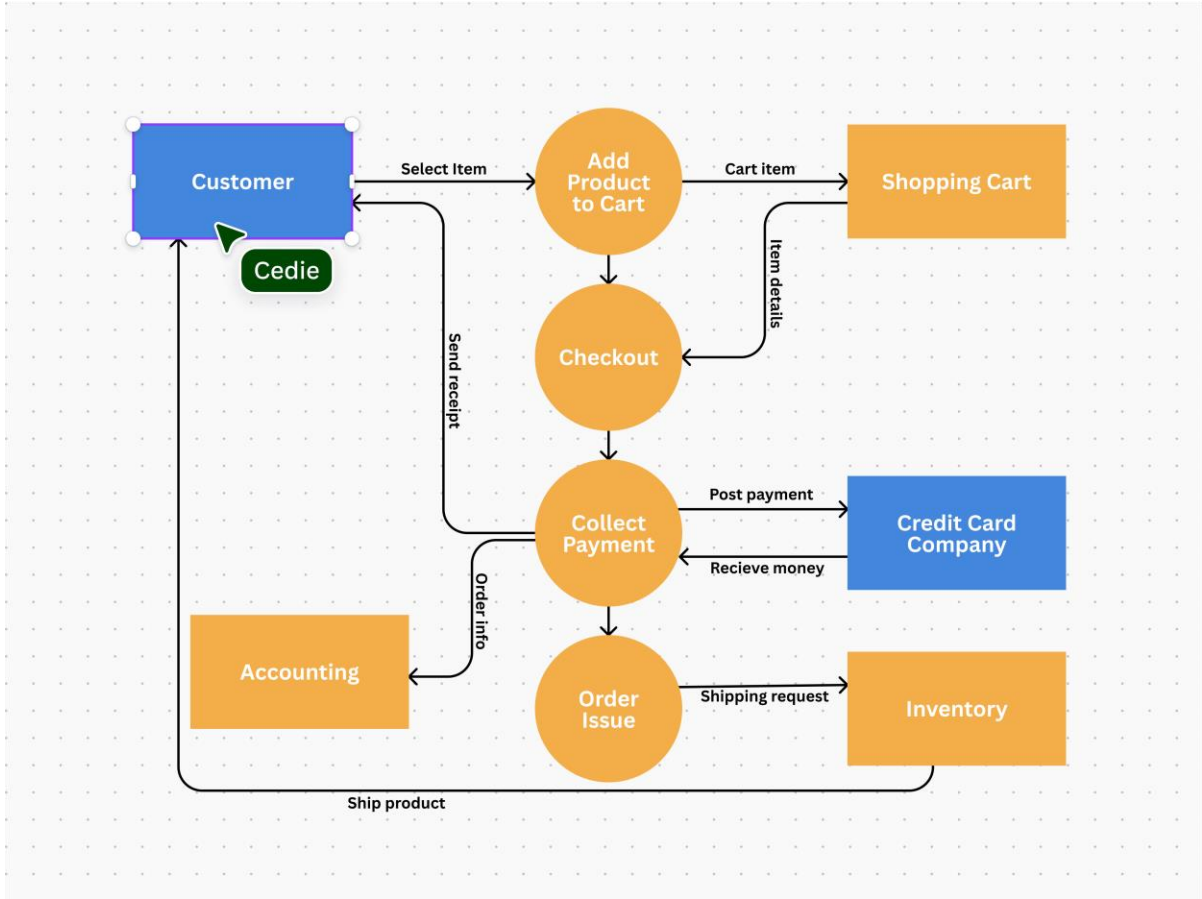
1. - Select an object to view the quick toolbar. You can use it to edit text, customize colors, create links etc.
2. - Use the (+) icon on **left bottom** to browse templates, shape libraries, icons and more
3. - You can add/remove libraries by clicking "Browse More Shapes" in shapes section. There are over 130 libraries to choose from.
4. - Use the toolbar appearing on the **top right** to add comments, notes, change shape properties, add custom fields etc.
5. - hover over the small icon on the bottom right on this sticky for more detailed instructions.!



- https://svg.template.creately.com/jo83qjn51

Data Flow Diagram Example

https://static-cse.canva.com/blob/1420680/long-form_data-flow-diagram_section-1_asset-1.png



What is a Flowchart?

Visual diagram: It uses shapes and arrows to show the steps in a process.

Shows the flow: The arrows connect the shapes and show the order in which things happen.

Uses shapes for different things:

Ovals: Start and end of the process.

Rectangles: Actions or steps in the process.

Diamonds: Decisions that need to be made (yes/no questions).

Benefits of Flowchart

Making complex processes easy to understand visually.

Improving communication and collaboration.

Finding bottlenecks and inefficiencies.

Documenting processes clearly.

Increasing efficiency and reducing errors.

More or less the same for all forms of algorithm design.

Flowcharts Use Shapes

Oval: Represents the start or end of a process.

Rectangle: Represents a process, task, or action.

Diamond: Represents a decision point, where the flow can go in different directions depending on the answer.

Parallelogram: Represents input or output of data or information.

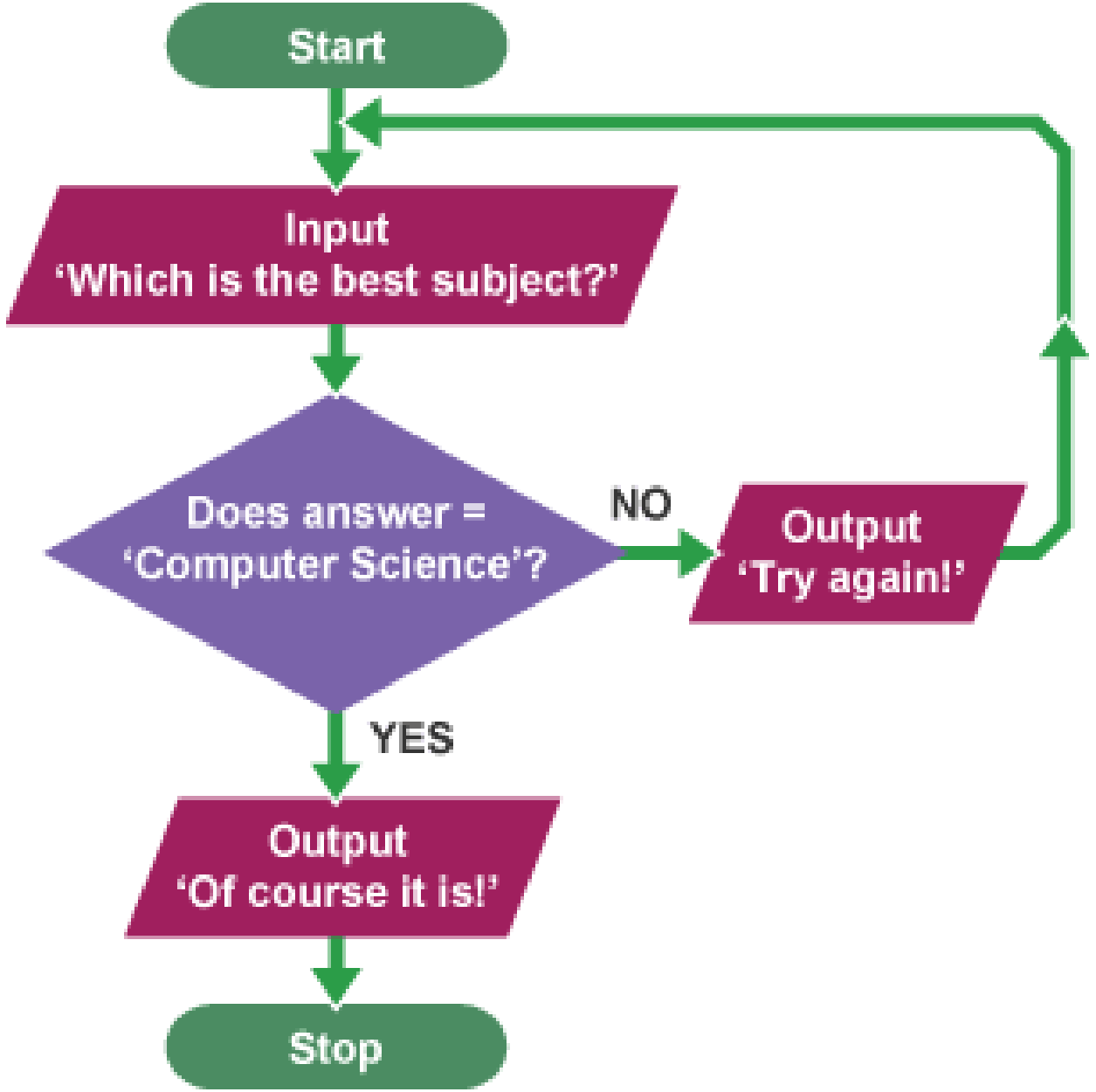
Arrows: Connect the shapes and show the direction of the flow.

Flowchart Shapes

BBC Bitesize

Symbol	Name	Function
	Start / End	An oval shape represents or end of a process
	Input / Output	A parallelogram represe output
	Decision	A diamond represents a
	Process	A rectangle represents a
	Arrow	An arrow is a connector relationships between th shapes and what they re

Flowchart Example



Flowchart To Code Example – Python 3

```
1  while True:
2      answer = input("What is the best subject?")
3      print(answer)
4      if answer == "Computer Science":
5          print("Of course it is... well done")
6          break
7
8      elif answer != "Computer Science":
9          print ("Error detected, please try again")
```

Coming up next...

Peripheral devices.