**What is FlowChart?**

*A flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task.*

## Flowchart symbols

Different types of boxes are used to make flowcharts flowchart Symbols. All the different kinds of boxes are connected by arrow lines. Arrow lines are used to display the flow of control. Let’s learn about each box in detail.

| **Symbol Name** | Symbol Representation |
| --- | --- |
| **Terminal/Terminator** |  |
| **Process** |  |
| **Decision** |  |
| **Document** |  |
| **Data or Input/Output** |  |
| **Stored Data** |  |
| **Flow Arrow** |  |
| **Comment or Annotation** |  |
| **Predefined process** |  |
| **On-page connector/reference** |  |
| **Off-page connector/reference** |  |

**Uses of Flowcharts in Computer Programming/Algorithms**

The following are the uses of a flowchart:

* It is a pictorial representation of an algorithm that increases the readability of the program.
* Complex programs can be drawn in a simple way using a flowchart.
* It helps team members get an insight into the process and use this knowledge to collect data, detect problems, develop software, etc.
* A flowchart is a basic step for designing a new process or adding extra features.
* Communication with other people becomes easy by drawing flowcharts and sharing them.

### When to Use Flowchart?

Flowcharts are mainly used in the below scenarios:

* It is most importantly used when programmers make projects. As a flowchart is a basic step to make the design of projects pictorially, it is preferred by many.
* When the flowcharts of a process are drawn, the programmer understands the non-useful parts of the process. So flowcharts are used to separate sound logic from the unwanted parts.
* Since the rules and procedures of drawing a flowchart are universal, a flowchart serves as a communication channel to the people who are working on the same project for better understanding.
* Optimizing a process becomes easier with flowcharts. The efficiency of the code is improved with the flowchart drawing.

### [What Is Networking?](https://www.ibm.com/topics/networking)

A **computer network** means two or more computers that are connected with the purpose of transmitting, exchanging, or sharing data and resources.

**Types of Computer network**

As networking needs evolved, so did the computer network types that serve those needs. Here are the most common and widely used computer network types:

* **LAN (local area network):** A LAN connects computers over a relatively short distance, allowing them to share data, files, and resources. For example, a LAN may connect all the computers in an office building, school, or hospital. Typically, LANs are privately owned and managed.
* **MAN (metropolitan area network):** MANs are typically larger than LANs but smaller than WANs. Cities and government entities typically own and manage MANs.
* **WAN (wide area network):** As the name implies, a WAN connects computers over a wide area, such as from region to region or even continent to continent. The internet is the largest WAN, connecting billions of computers worldwide. You will typically see collective or distributed ownership models for WAN management.

**Write a short note on Computer networks and the internet**

The internet is actually a network of networks that connects billions of digital devices worldwide. Standard protocols allow communication between these devices. Those protocols include the hypertext transfer protocol (the ‘http’ in front of all website addresses). Internet protocols (or IP addresses) are the unique identifying numbers that are required of every device that accesses the internet. IP addresses are comparable to your mailing address, providing unique location information so that information can be delivered correctly.

Internet Service Providers (ISPs) and Network Service Providers (NSPs) provide the infrastructure that allows the transmission of packets of data or information over the internet. Every bit of information that is sent over the internet doesn’t go to every device connected to the internet. It’s the combination of protocols and infrastructure that tells information exactly where to go.

 **How do the computer network work?**

Computer networks connect nodes like computers, routers, and switches by using cables, fiber optics, or wireless signals. These connections allow devices in a network to communicate and share information and resources.

Networks follow protocols, which define how communications are sent and received. These protocols allow devices to communicate. Each device on a network uses an Internet Protocol or IP address, a string of numbers that uniquely identifies a device and allows other devices to recognize it.

Routers are virtual or physical devices that facilitate communications between different networks. Routers analyze information to determine the best way for data to reach its ultimate destination. Switches connect devices and manage node-to-node communication inside a network, ensuring that bundles of information traveling across the network reach their ultimate destination.

### Discuss about the computer Network topology

Network topology refers to how the nodes and links in a network are arranged. A network node is a device that can send, receive, store, or forward data. A network link connects nodes and may be either cabled or wireless links.

. There are several topologies but the most common are bus, ring, star, and mesh:

* **A bus network topology** is when every network node is directly connected to a main cable.
* **In a ring topology,** nodes are connected in a loop, so each device has exactly two neighbors. Adjacent pairs are connected directly; nonadjacent pairs are connected indirectly through multiple nodes.
* **In a star network topology**, all nodes are connected to a single, central hub and each node is indirectly connected through that hub.
* **A mesh topology** is defined by overlapping connections between nodes. You can create a full mesh topology, where every node in the network is connected to every other node. You can also create partial mesh topology in which only some nodes are connected to each other and some are connected to the nodes with which they exchange the most data. Full mesh topology can be expensive and time-consuming to run, which is why it's often reserved for networks that require high redundancy. Partial mesh provides less redundancy but is more cost-effective and simpler to run.