

## Tutorials on Flowcharts and Algorithms

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Algorithm can be defined as: "A sequence of activities to be processed for getting desired output from a given input."  What is Algorithm?		
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Characteristics of an Algorithm		
Well-Defined Inputs Well-Defined Outputs		
Clear and Unambiguous  Characteristics of an Algorithm  Finite-ness		
Language Independent Feasible For Feasible		
Problem solving is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and		
implementing a solution. The problem- solving process. Problem solving resources.		
A flowchart is a type of diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This		



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Symbols Used	Symbol	Name	Function
		Start/end	An oval represents a start or end point
		Arrows	A line is a connector that shows relationships between the representative shapes
		Input/Output	A parallelogram represents input or output
		Process	A rectangle represents a process
		Decision	A diamond indicates a decision
CPU	CPU itself has following three componentsMemory or Storage UnitControl UnitALU(Arithmetic Logic Unit)		

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- 1. Abhiram is 2.5 years old boy and learning basic life skills. Her mother wants her brush his teeth on his own. Instruct him to do that using algorithm.
- 2. Suvi is a 5 year old girl, and taking online classes using Microsoft Teams app. Explain her in minimum steps to join her class using flowchart.
- 3. Suppose Bennett University students are called in the campus. They are advised to bring their Negative RTPCR report. Draw the flow chart of whole scenario of RTPCR testing.
- 4. Suvi is a little girl, currently, she is learning basic math operations. On her birthday eve, three of her aunts gave her money, help her count all the money given by three aunts by using a flowchart.
- 5. Shubhi wants to learn how to withdraw cash from ATM machine, help her understanding it using flowchart.
- 6. Write down an algorithm to find out the factorial of N.
- 7. Aarohi is a student of class 6 and loves pizza, her father asked a problem and told her, that if she finds a correct answer then she will get pizza. He asked her to find the sum of all integers from 1 to 200. Adding these values will take so much time. Help her finding the sum of natural numbers by using an algorithm.
- 8. Explain to Shubhi about how to calculate all the odd numbers from 0 to 99 using algorithm.
- 9. The entire fresher's are in campus because Covid restrictions have been removed. You all want to make new friends so you planned a get together. You have booked a club but this club is having a restriction that only student who is above 20 years can get the entry. Make a flowchart for taking Age as input, and check whether the student will get the entry or not.