

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. Make a flowchart to read two numbers, and find their sum.
- 2. Suppose you are tech savvy student. You have account in all social media platforms. One of your colleague has joined you in Bennett University, he is not much aware of these platforms; draw a flowchart for him to understand how he will open a face book account.
- 3. Amar, Akbar and Anthony are three brothers; their height is given to you. Write an algorithm to find who is tallest among all.
- 4. Aditya has joined Bennett University recently and living in the hostel. While leaving home his mother has instructed him to eat fruits every day. He goes to nearby Aichher market and buys some fruits. He is having 500 Rupees with him. He purchased 2.0 kg Apples for Rs. 100.0 per kg, 1 kg orange priced Rs.45.0 per kg, 1.5 kg banana priced Rs.30.0 per kg, and 1 kg pomegranate priced Rs. 115 per kg. He gives Rs. 500 to the shopkeeper. Write down an algorithm for this problem, also tell number of items and the saved amount.
- 5. Draw a flowchart to find the sum of first 100 natural numbers.
- 6. Mahima is also enrolled in python lab. Her "Every Day" lab performance is been graded by using A, B, C, D grades. For each lab she has been given five problems, and each problem is having 2 marks. If she gets more than 8 marks then she will get 'A' grade, if it is more than 6 then the grade will be 'B', if she gets more than 4 then she will receive 'C' grade, otherwise she will be graded 'D'. Draw a flowchart to display mahima's grade.
- 7. Write down an algorithm to find out the factorial of N.
- 8. Write an algorithm to calculate even number from 0 to 99.
- 9. Aditi is the student of EB19 batch, she is taking python class, her teacher asked her to convert a decimal number to its binary format, but she does not know how to do it. Help her understand the decimal to binary conversion using flowchart.