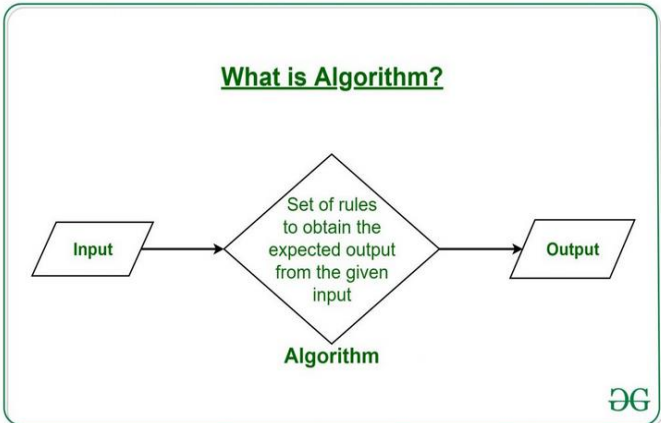
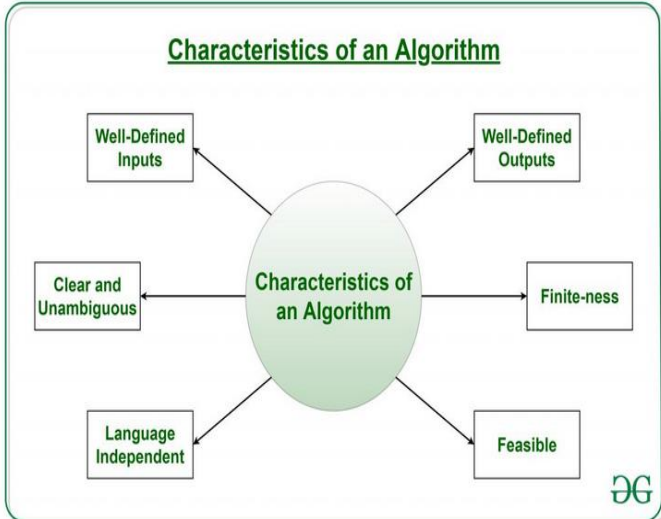



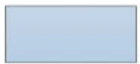




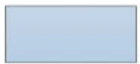




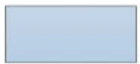



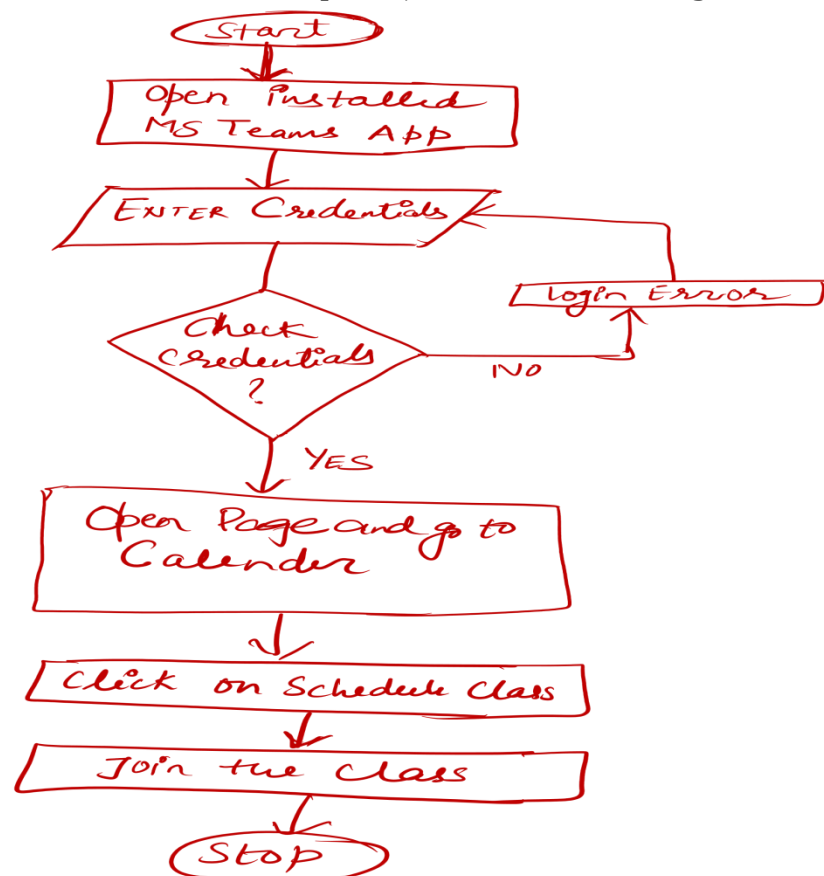
Algorithms	<p>Algorithm can be defined as: “A sequence of activities to be processed for getting desired output from a given input.”</p> 
Main properties of an Algorithm	
Problem Solving	<p>Problem solving is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution. The problem-solving process. Problem solving resources.</p>
Flowcharts	<p>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</p>

	diagrammatic representation illustrates a solution model to a given problem. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.																		
Symbols Used	<table><tr><th>Symbol</th><th>Name</th><th>Function</th></tr><tr><td></td><td>Start/end</td><td>An oval represents a start or end point</td></tr><tr><td></td><td>Arrows</td><td>A line is a connector that shows relationships between the representative shapes</td></tr><tr><td></td><td>Input/Output</td><td>A parallelogram represents input or output</td></tr><tr><td></td><td>Process</td><td>A rectangle represents a process</td></tr><tr><td></td><td>Decision</td><td>A diamond indicates a decision</td></tr></table>	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
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CPU	<p>CPU itself has following three components.</p> <ul style="list-style-type: none"><li>-Memory or Storage Unit.</li><li>-Control Unit.</li><li>-ALU(Arithmetic Logic Unit)</li></ul>																		

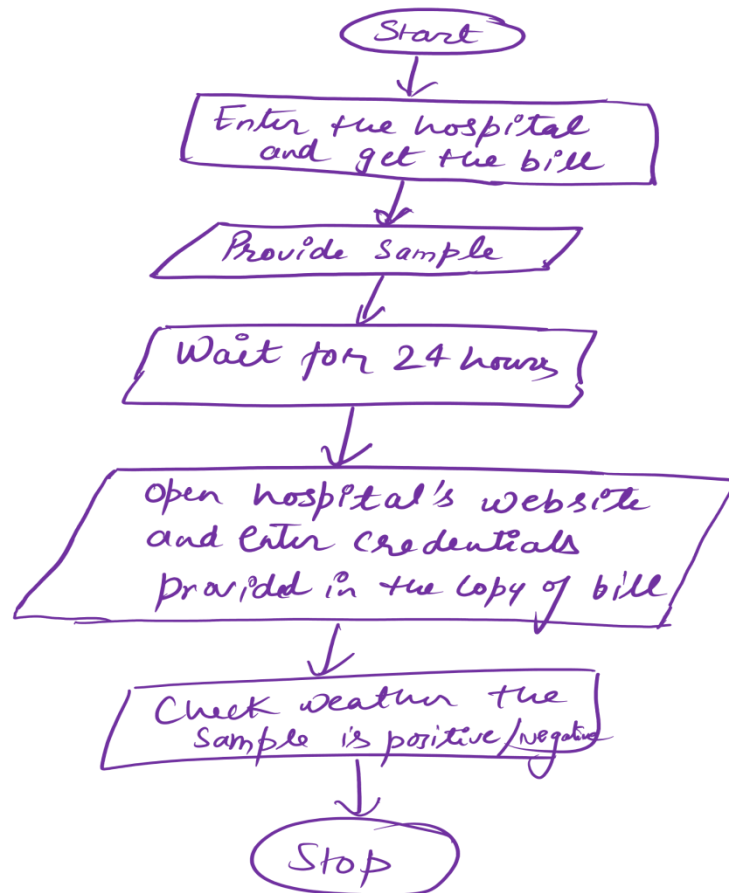
1. Abhiram is 2.5 years old boy and learning basic life skills. Her mother wants her take bath properly. Instruct him to do that using algorithm.

- Step 1 : Start
- Step 2 : Take brush and toothpaste
- Step 3: Apply toothpaste on the brush
- Step 3 : Brush the teeth in circular motion for 30 sec
- Step 4 : Gargle using water and spit it out
- Step 5 : Put the brush and toothpaste at the proper place
- Step 6 : End

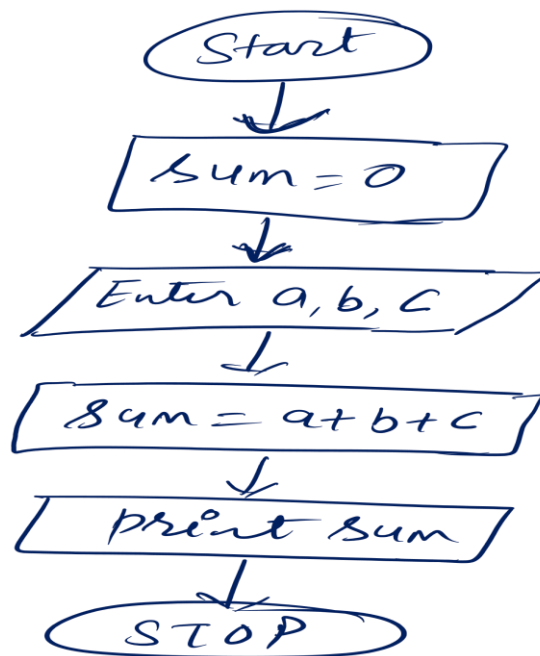
2. Suvi is a 5 year old girl, and taking online classes using Microsoft Teams app. Explain her in minimum steps to join her class using flowchart.



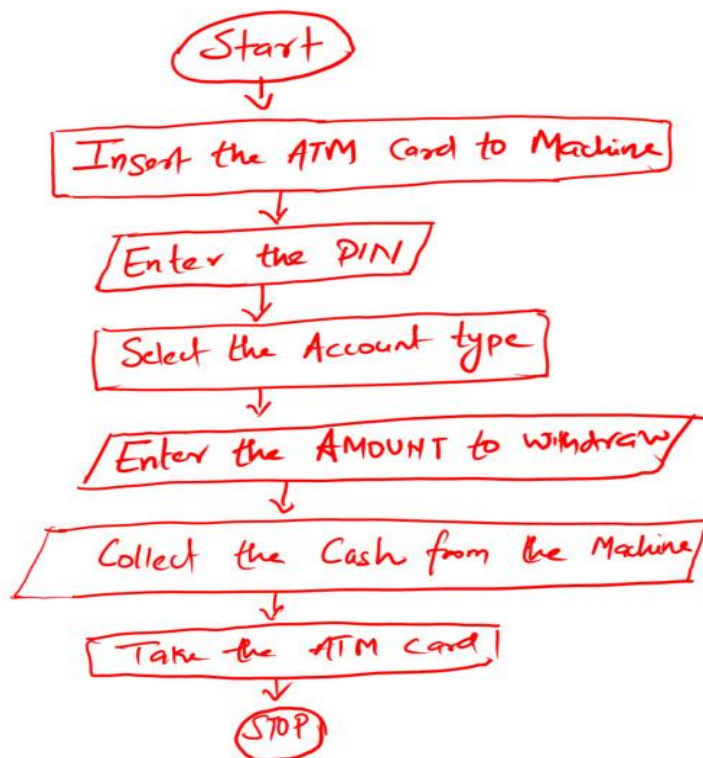
3. Suppose Bennett University students are called in the campus. They are advised to bring their Negative RTPCR report. Draw the flow chart of whole scenario of RTPCR testing.



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.

## Tutorials on Flowcharts and Algorithms

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- Start
  - Read number n
  - Initialize i and fact to 1
  - Repeat step 4 and step 5 while i is not equal to n
  - $\text{fact} \leftarrow \text{fact} * i$
  - $i \leftarrow i + 1$
  - Return fact
  - End
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.
- Step 1 : Start
  - Step 2 : Assign  $\text{sum}=0$  and  $i=0$
  - Step 3 : Read limit of number :  $n=200$
  - Step 4 : Repeat steps 5 to 6 until  $i=200$
  - Step 5 : Compute  $\text{sum}=\text{sum}+i$
  - Step 6 : Compute  $i=i+1$
  - Step 7 : Print sum
  - Step 8 : End
8. Explain to Shubhi about how to calculate the odd numbers using algorithm.
- Step 1- Start
  - Step 2- Read / input the number
  - Step 3- if  $n\%2==0$  then number is even
  - Step 4- else number is odd
  - Step 5- display the output
  - Step 6- End

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.

