Indian Institute of Technology Mandi

MA 514: Computer Programming

Tutorial-1

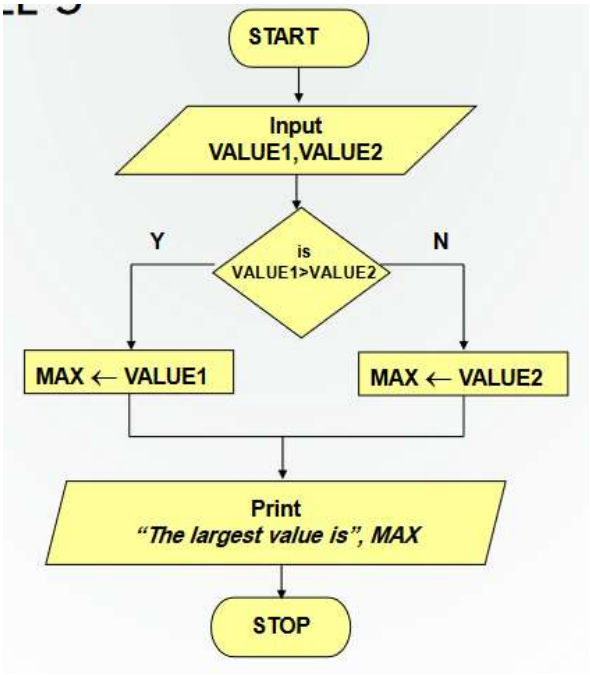
Questions

1. Write an algorithm to find the area of a triangle where three sides are given.
2. Write an algorithm to find the smallest of three numbers.
3. Write an algorithm to print squares of a number.
4. Write an algorithm to print the grade obtained by a student using the following rules:

Marks	Grade
Above or equal 75	O
60 to less than 75	A
50 to less than 60	B
40 to less than 50	C
Less than 40	D

5. Write an algorithm to determine a student final grade and indicate whether it is passing or failing; the final grade is calculated as the average of four marks and to pass final grade is greater or equal to 40.
6. Draw a flow chart to find the area and circumference of a circle.
7. Draw a flow chart to print all natural numbers up to n.
8. Draw a flow chart to find sum of even numbers up to n.
9. Student Roll number, student name, the marks obtained in 5 subjects, each subject having maximum marks 100. Make a flowchart to calculate the percentage marks obtained and print student's roll number and percentage of marks.
10. Compute percentages for 10 students and print their roll numbers, names, and percentage of marks.
11. Write an algorithm and draw a flowchart that will calculate the roots of a quadratic equation.
12. Write an algorithm and draw a flowchart to calculate the factorial of a given number.
13. Convert the following algorithm to corresponding flowchart.
    Step1: Start
    Step2: Get A, B, C
    Step3: if(A>B) goto Step4 else goto step5
    Step4: If(A>C) print A else print C
    Step5: If(B>C) print B else print C
    Step6: Stop

14. Convert the following flowchart to corresponding algorithm.



15. Convert the following flowchart to corresponding algorithm.