Birla Institute of Technology and Science, Pilani

CS F111 (Computer Programming)

Week 5 .... Loops

Attempt the following questions. Try to implement each of these using all three loop constructs, i.e. while, for, and do while. Then, have a clear understanding about using which loop construct is a good programming practice.

Q 1.   Write a program to input a number and find out reverse of that number.

Q 2.   Write a program to find the factorial of a number.

Q 3.   Write a program to print all the Fibonacci numbers up to n, where n is taken as input.

Q 4.   Write a program to take a n-digit number as input and print the sum of its digits.

Q 5.   Write a program to take marks of all the students of a class and print the average, highest, and lowest marks. Do not use arrays here. Compute the three things as the user input each marks.

Q 6.   Write a program to print following pattern.

```
#
#       #
#       #       #
#       #       #       #
#       #       #       #       #
#       #       #       #
#       #       #
#       #
#
```

Q 7.   Write a program to print the following series and also find out the sum of series.

1 + 22 + 333 + 4444 +.................. + N terms

Q 8.   Write a program to print Pascal Triangle

```
            1
         1     1
      1     2     1
```

```
        1       3       3       1
    1       4       6       4       1
```

Q 9. Write a program to input a number and check whether the number is palindrome or not.

Q 10. Write a program to print following pattern

```
1   2   3   4   5   5   4   3   2   1
1   2   3   4               4   3   2   1
1   2   3                       3   2   1
1   2                               2   1
1                                       1
```

Q 11. Write a program to print following pattern

```
                        1
                    1   2   1
                1   2   3   2   1
            1   2   3   4   3   2   1
        1   2   3   4   5   4   3   2   1
            1   2   3   4   3   2   1
                1   2   3   2   1
                    1   2   1
                        1
```