IS 1001 – Programming and Problem Solving – Tutorial 4

Iterations - Loops

1. Print the multiples of 5 which are not divisible by 10, from 1 to 100 in descending order using a 'for loop'.

2. Count the number of all multiples of 7 from 1 to 100 using a 'for loop' and display the answer.

3. Write a recursive function to generate following number series: 5,10,15,20.....100. You may assume the base value of the series is as 5.

4. 2^{15} = 32768 and the sum of its digits is 3 + 2 + 7 + 6 + 8 = 26. What is the sum of the digits of the number 2500? (Hint: Use a 'for loop')

5. The summation of first three self powers is $1^1+2^2+3^3$= 32. Find the summation of self powers from 1 to 5 using a 'for loop'.

6. Write a program to get the following outputs.

(a)
```
*****
*****
*****
*****
*****
```

(b)
```
*
**
***
****
*****
```

(c)
```
*****
****
***
**
*
```

(d)
```
    *
   **
  ***
 ****
*****
```

7. Write a program to enter marks and to calculate the total, average and the grade based on the calculated average. (Pass mark is 50) Your program should be able to accept any number of subject marks as command line arguments.

Break and Continue

1. Write a program to find a letter from the following list. If the entered letter is not in the list a message should be displayed. letters = ['s', 'g', 'h', 't', 'y', 'p', 'w', 'd', 'a', 'z']

2. Write a program to print the numbers from 1 to 20 which are not divisible by 3, using continue statement.