

جس شخص سے اس روز عذاب نال دیا گیا اس پر خدا نے (بڑی) مہربانی فرمائی اور یہ کھلی کامیابی ہے۔ الانعام آیت ۱۶

All human actions have one or more of these seven causes: chance, nature, compulsion, habit, reason, passion, and desire. Aristotle

## Solution Homework 05

### [Repetition]

**Note:** It is assumed that all tasks should be solved using loop.

#### Task 1:

Write a program to print first 10 multiple of 7

7 14 21 28 35 ... 70

```
for (i=1;i<=10;i++)
    System.out.print(i*7+" ");
```

#### Task 2:

Write a program to print 1-100 all numbers divisible by 3 or 7

3 6 7 9 12 14 15 18 21 24 27 28 ...

```
for (i=1;i<=100;i++)
    if (i%3==0 || i%7==0)
        System.out.print(i+" ");
```

#### Task 3:

Write a program to print 1-100 all numbers divisible by 3 and 7

21 42 63 84

```
for (i=1;i<=100;i++)
    if (i%3==0 && i%7==0)
        System.out.print(i+" ");
```

#### Task 4:

Write a program to calculate factorial of any number.

Factorial of 3 is:  $3*2*1=6$  and factorial of 5 is  $5*4*3*2*1=120$

```
System.out.print("Enter number:");
int n=in.nextInt();
int f=1;
while (n>0){
    f=f*n;
    n=n-1;
}
System.out.println("Factorial is:"+f);
```

#### Task 5:

Write a program similar to one discussed in lecture notes 10. Modify this program to give output like this:

1+2+3+4+5+6+7+8+9+10=55

Note you must not hard code this program. Write program using loop and having user input. Above output is for input 10, if input is 5, output should be

1+2+3+4+5=15

```
System.out.print("Enter number:");
n=in.nextInt();
i=1;
sum=0;
while (i<=n){
    System.out.print(i+"");
    sum=sum+i;
    i=i+1;
}
System.out.println("\b="+sum);
```

### Task 6:

Write a program to print square of first ten positive numbers?

1 4 9 16 25 36 49 64 81 100

Give distance between numbers so that squares can be distinguished

```
i=1;
while (i<=10){
    System.out.print(i*i+" ");
    i=i+1;
}
```

### Task 7:

Write a program to show output as given on right hand side. Use the idea of printing stars given in lecture 10. Instead of stars uses space, also replace character star with character star, finally write following line inside loop to print pattern.

```
System.out.println(spaces+i);
```

```
1
 2
   3
    4
     5
      6
       7
```

```
String spaces="                ";
i=1;
while (i<=7){
    System.out.println(spaces.substring(1,i)+i);
    i=i+1;
}
```

### Task 8:

Write a program to generate 2 random numbers n1 and n2 in range 1 to 5. Display n and check if both are equal, show message "Same number generated again, Let me try again." generate n2 again and check if same number generated again, show message "Sorry same number again." otherwise show second number?

**Already solved in previous homework, repeated by mistake**