Module 5:
Outputs based on Loops

Covert the following to the other equivalent loop.

a) **Convert to for loop** :-	**To for loop**

int i=0, x=0;
 	
while(i<=20){
 	
System.out.print(i+ " ");
 	
x++;
}
	int i=0,x;
	
	for(x=0; i<=20; x++)
	
	System.out.print(i+ " ");

c) **Convert to while loop** :	**To while**

int f=1,i;
 	
for(i=1;i<=5;i++) {
 	
  f*=i;
 	
System.out.print(f);
 	
}
	int f=1,i=1;
	
	while(i<=5){
	
	  f*=i;
	
	  System.out.print(f);
	
	  i++;

b) **Convert to do-while loop** :	**To do-while**

int x,c;
 	
for(x=10,c=20;c>=10;c=c-2)
 	
  x++;
	int c=0,x=10;
	
	do{
	
	c=c-2;
	
	x++;
	
	}while(c>=10)

c) **Convert to do-while loop** :	**To do- while**

for (int i=5; i>=0; i-=2)
 	
  System.out.print(i*i);
	int i=5;
	
	do{
	
	  i-=2;
	
	  System.out.println(i*i);
	
	} while(i>=0);

Outputs Based on Loops

int m=3;

  int n=15;

for(int i=1;i<5;i++);{

  m++;

--n;}

System.out.println("m="+m);

System.out.println("n="+n);

Output: - m= 3

    n= 15

Due to **semicolon ;** after for loop, the loop terminates there itself and hence the value of m and n doesn't change.

- int n1 = 20, n2 = 30;

  for (int i = 1; i<n2-n1; i++)

  {

    System.out.println(n1-i);

  }

19
18
17
16
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12
11

- Analyse the following output and also state how many times the loop will be executed?

    int x=5, y=50;

    while (x<=y)

    {

     y= y/x;

     System.out.println(y);

10

2

Loop will execute 2 times

Outputs Based on Loops

• Analyse the following output and also state how many times the loop will be executed?
 	
    Int k=1, i=2;
 	
    while(++i<6)
 	
     k*=i;
 	
    System.out.println(k);
	Output is 60
	
	Loop will execute 3 times

• Analyse the following output.
    int i=1;
    while(i++<=1) {
     i++;
     System.out.print(i+ " ");
    }
    System.out.print(i);
	Output is 3 4
	
	Value of i will increment 2 times. Print statement inside the loop will display 3 and next time i++ will make the value of i as 4 the condition will be false, hence it will display 4.

Outputs Based on Loops

i.   int x=50, y=5;
      while(x>=y)
      {
       y= x/y;
       System.out.print(y+",");
      }
	It will generate an infinite loop to print
	
	10, 5 , 10 , 5 , 10 , 5,………….

i.   int x=1, i=1;
      while(i++<5)
      {
       if(i==2)
       continue;
       x*=i;
      }
	Result = 60

•   Analyse the following output ?
     int x=1000, y=9,z=5;
      do
      {
       x= x/y;
       z= z++ + 1;
     }while(y<=x)
     System.out.println("Value of z is" + z);
	Value of z is 8