Assignment 6 Solution

Questions with Answers:

1. Write a program to print the given pattern using nested loops.

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

Ans:

```
class pattern{
public static void main() {
        int sp=4;
        for (int i=5 ; i>=1 ; i--)
        {
           for(int k=1 ; k<=sp ; k++)
              System.out.print(" ");

          for(int j=5 ; j>=i ; j--)
              System.out.print(j);

          for(l=5 ; l>=i+1 ; l--)
               System.out.print(l);
        SOPln(  );
        sp--;
        }
    }
}
```

2. WAP to print all mersene numbers from 1 to 100.

Ans:

```
import java.util.*;
 class mersene{
  public static void main(String args[])    {
    int n,s=0;
    Scanner sc= new Scanner(System.in);
    System.out.println("Enter the limit");
    n=sc.nextInt();
   System.out.println("Squares Btw 1 and "+n+ " are:");
    for(int i=1;i<=n;i++)  {
         j=1;
         while(s<=i){
              s = Math.pow(2,i)-1;
            if(s==i)
              System.out.println(i+ " ");
            j++;
          }
       }
   }
```

3. WAP to print the sum of the given series:

S = $x/2!$ + $2x/4!$ + $3x/8!$ + ... + n terms.

Ans:

```
import java.util.*;
class series3 {
   public static void main(String Args[])  {
      int n,i,f=1,j;
      double sum=0.0;
      Scanner sc= new Scanner(System.in);
      System.out.println("Enter the number of terms");
      n= sc.nextInt();
     System.out.println("Enter the value of x");
      int x=sc.nextInt();
       for(i=1;i<=n;i++)
      {
         f=1;
         for(j=1;j<=i;j++)
         {
            f=f*j;
         }
        sum=sum+((x*i)/f);
       }
      System.out.println(sum);
   }
}
```

4. What are nested loops? How they work.

Ans:

Consider notes provided in the course for theory questions.

5. Analyse the given code and find the errors, if any. State with reason. (Don't need to find the output only analyse the code and find errors if any otherwise write none.)

```
int i;
for{int i=76 ; i>=-9 ; i--}
{
  for{j=i ; j>3 ; j--}
   i+=i;
  System,out,println(j);
}
```

Ans:

```
int i;
for{int i=76 ; i>=-9 ; i--}  // Here variable is declared twice ; and curly braces are used in for statement
{
   for{j=i ; j>3 ; j--}  //Here curly braces are used in for statement
    i+=i;
System,out,println(k); //Here variable k is used but never declared
}
```