

Assignment-6

Q1.

```

      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
  
```

Class TriangularPattern

```

{
    public static void main (String[] args)
    {
        int i, j, k, sp=4, l;
        For (i=5; i>=1; i--)
        {
            For (k=1; k<=sp; sp k++)
            {
                SOP(" ");
            }
            For (j=5; j>=i; j--)
            {
                SOP(j);
            }
            For (l=5; l>=i+1; l--)
            {
                SOP(l);
            }
            SOPln(" ");
            sp--;
        }
    }
}
  
```

}
}
}

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

class MersenneNumber

{

public static void main (String[] args)

{

int i, j;
for (i=1; i<=100; i++)
{

j=i;
while (j>0)
{

3. $S = \frac{x}{2!} + \frac{2x}{4!} + \frac{3x}{8!} + \dots + n \text{ terms.}$

class FactorialSeries

```
{
    public static void main(String[] args)
    {
        int i, x, f=1, n, j;
        double s=0.0;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the terms");
        n=sc.nextInt();
        for(i=1; i<=n; i++)
        {
            for(j=1; j<=i*2; j++)
            {
                f = f*j;
            }
            s = s + ((x*i)/f);
        }
        System.out.println(s);
    }
}
```

Q4. What are nested loops. How they work?

4. When a loop is placed inside another loop, it is called nested loop.
There is no restriction on the type of nested loop.

There is no restriction on the number of nested loops.

Working of nested loop:-

```
// 1st for loop
for (initialise 1; condition 1; update 1)
{
    // 2nd for loop
    for (initialise 2; condition 2; update 2)
    {
        // code ....
    }
}
```

Q5.

Error in :-

```
System.out.println (k);
```

j, k should be initialise and it should be
System.out.println ();