21 pattern

```
public class pattern
{
    public static void main (string[] args)
{
 Scanner input = new Scanner (system.in);
  char c = input.next().charAt(0);
  int n = input.next int();
   for (int i=1; i<=n; i++)
    {
      for (int j=1; j<=i; j++)
       {
          system.out.println();
        }
      system.out.println();
   }
  }
}
```

22 leap year or not

```
public class leapyears
public static void main (string[] args) {

    Scanner input = new Scanner (System.in)

    System.out.print ("  ");

    string. out. = year. input();

    string a[] = year. split ("/");

    string d = a[2];

    int num = enteger. parseint (d);

    if ((num%4 == 0 && num% 100 != 0) ||

            num% 400 == 0 )

      System.out.println ("it is a leap year")

    else

      System.out.println ("it is not leap year");

  }

}
```

23) <u>Factors</u>:-

```
public class function {

  public static void main (string [] args) {

    Scanner input = new Scanner (System.in);

    int n = input. needin ();
int Factors = 0;

For (int i=1; i<=n; i++)

 {
     if (n%i == 0)

         Factors = Factors + 1;

  }

System.out.print ("Number of Factors = "+ Factors);

}

}
```

4 prefect number :-

```
public class perfect {

    public static void main (string [] args) {

     scanner input = newscanner (system.in);

     int n = input.next int ();

     int Factors = 0;

     For (int i = 1; i < n; i++)

      {
         int (n%i == 0)

         Factors = Factors + i;

      }

      if (n == Factors)
system.out.print("IF is a perfect number");
  else
  System.out.println("It is not a perfect number");
}
}
```

25) vowels

```
    public class vowels{
      public static void main(String[] args){
       Scanner input = new Scanner(System.in);
       Stringname = input.nextline();
       int len = name.length();
       char a[] = newchat[len];
       int raw = 0;
       For (int i=0; i<len; i++)
  {
     a[i]= name.charAt(i);
   if (a[i]= 'a' || a[i]= 'e'|| a[i] == 'i'|| a[i]=
          'o'|| a[i]== 'u'|| a[i]== 'A'||
     a[i]== 'E'|| a[i]== 'I'|| a[i]== 'O'||
          a[i]== 'J';

     row = row+1;
 }
 System.out.println(vow);
 }
}
```

26 vowels and consonants

```
        public class consonants {
              public static void main(string[] args){
             Scanner input = new Scanner(System.in);
             string name = input.nextline();
            int len = name.length();
            char ans = new char[len];
            char vow[] = new char [len];
            char con[] = new char[len];
   int v=0, c=0;
   for (int i=0; i<len; i++)
    {
       a[i] = name.charAt(i);
          if (a[i]=='a' || a[i]=='e' || a[i]=='i' ||
          a[i]=='o' || a[i]=='u' ||

   a[i]='A' || a[i]=='E' || a[i]=='I' || a[i]=='O'
   || a[i]=='U' {
            vow[v] = a[i];
    v++;
 }
  else {
    con[c]=a[i];
      c++;
  }
}
system.out.print("consonants:");
For (int i=0; i<v; i++)
 {
  system.out.Print(row(i));
 }
 system.out.print(row(i));
}
 System.out.print("\n vowels:");
  For (int j=0; j<c; j++)
  {
   system.out.print((con[j]));
  }
 }
}
```

27) Fibonacci-series:-

```
    public class Fibonacci {
      public static void main (string [] args)
       Scanner input = new Scanner(system.in)
        int n= input.nextInt();
```

```
int a1 =0; a2=1;
For (int i=0; i<n; i++)
  {
    System.out.print (a1+" ");
    int a3 = a1+a2;
    a1=a2;
      a2=a3;
  }
 }
}
```

28) square and cube:-

```
 public class square {
  public static void main (String[] args){
   Scanner input = new Scanner (System.in);
   Float n= input.next Flat ();
   System.out.print ("square:" F(n*n));
   System.out.print ("cube: "+F(n*n*n));
```

29) Frequency of Element :-

```
public class element {

    public static void main (string [] args ) {

    Scanner input = new scanner (system.in);

    int a[] = new int[] { 1,2,8,3,2,2,2,6,1};

    int t [] = new in (a.length);

    int visited = -1;

   for (int i=0; i<a.length); i++)
  {
    int count = = 1;

   for (int j+1; j<a.length; j++)
    {
     if (a[i] = = a[j] )
      {
       count ++;

      t[j] = visited;
      }
  }
  if (t[i] != visited)

         t[i] = count;

    }

    for (int i=0; i<a.lensth; i++)

 { if (t[i] != visited)
System.out.println(a[i]+"  "+a[j]);

  }
 }
}
```

30. Hallow-square:-

```
    public class Hallow{
    public static void main(String[] args){
      Scanner input=new Scanner(System.in);
    int n=5;
    char c=input.next().charAt(0);
    for(int i=1; i<=n; i++)
    {
      for(int j=1; j<=n; j++)
    {
      if(i==1 || j==1 || i==n || j==n)
          System.out.print(" ");
    else
        System.out.print("  ");
    }
         System.out.println();
  }
 }
```