**Slip14**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip14.html)

 Q1) Write a program to accept a number from the user, if number is zero then throw user defined exception “Number is 0” otherwise check whether no is prime or not (Use static keyword). [10 marks]

//Slip14\_1

import java.util.\*;

class NumberException extends Exception

{

   NumberException()

 {

       System.out.println("Number is 0");

 }

}

class Slip14\_1

{

 public static void main( String args[] )

 {

   Scanner sc=new Scanner(System.in);

System.out.println("Enter Number ");

int n=sc.nextInt();

try

{

if(n==0)

throw new NumberException();

else

{

 int i,m=0,flag=0;

    m=n/2;

   if(n==0||n==1)

    System.out.println(n+" is not prime number");

   else

{

    for(i=2;i<=m;i++)

{

     if(n%i==0)

{

      System.out.println(n+" is not prime number");

      flag=1;

      break;

     }

    }

}

    if(flag==0)

System.out.println(n+" is prime number");

}

}

catch(NumberException e){}

}

}

Q2) Write a Java program to create a Package “SY” which has a class SYMarks (members – ComputerTotal, MathsTotal, and ElectronicsTotal). Create another package TY which has a class TYMarks (members – Theory, Practicals). Create ‘n’ objects of Student class (having rollNumber, name, SYMarks and TYMarks). Add the marks of SY and TY computer subjects and calculate the Grade (‘A’ for >= 70, ‘B’ for >= 60 ‘C’ for >= 50, Pass Class for > =40 else‘FAIL’) and display the result of the student in proper format. [20 marks]

//SYmarks.java

package  sy;

public class SYmarks

{

 int computertotal;

 int mathstotal;

int electronicstotal;

public SYmarks()

        {

                        computertotal=0;

mathstotal=0;

electronicstotal=0;

        }

        public SYmarks(int c,int m,int e)

        {

                this.computertotal=c;

                this.mathstotal=m;

                this.electronicstotal=e;

        }

}

//TYmarks.java

package ty;

public class TYmarks

{

public int theory;

public int practicals;

public TYmarks()

        {

                theory=0;

practicals=0;

        }

public TYmarks(int t,int p)

        {

                this.theory=t;

                this.practicals=p;

        }

}

 //main program

import sy.\*;

import ty.\*;

import java.io.\*;

public class Student

{

int roll\_no;

String name;

SYmarks sym;

TYmarks tym;

String Grade;

  public Student(int r, String na,int c\_t,int m\_t,int e\_t,int t1,int p,String g)

{

   roll\_no=r;

   name=na;

   sym=new SYmarks(c\_t,m\_t,e\_t);

   tym=new TYmarks(t1,p);

   Grade=g;

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

  //Displaying Roll No,Name , Marks and Grade

 public void show(int c\_t,int m\_t,int e\_t,int t1,int p,String g )

{

System.out.println("Roll No: "+roll\_no);

System.out.println("Name :"+name);

System.out.println("SY Computer marks :"+c\_t);

System.out.println("SY Maths marks :"+m\_t);

System.out.println("SY Electronic marks :"+e\_t);

System.out.println("TY theory marks :"+t1);

System.out.println("TY practical marks :"+p);

System.out.println("Grade :"+g);

    }

public static void main(String[] args)throws IOException

{

   String g;

   int n;

   BufferedReader br= new BufferedReader(new InputStreamReader(System.in));

   System.out.println("Enter how many students");

           n=Integer.parseInt(br.readLine());

   Student s[]=new Student[n];

      for(int i=0;i<n;i++)

   {

System.out.println("Enter Roll No");

int r=Integer.parseInt(br.readLine());

System.out.println("Enter Name");

String na=br.readLine();

System.out.print("Enter SY Computer marks");

int c\_t=Integer.parseInt(br.readLine());

System.out.print("Enter SY Maths marks");

int m\_t=Integer.parseInt(br.readLine());

System.out.print("Enter SY Electronics marks");

int e\_t=Integer.parseInt(br.readLine());

System.out.print("Enter TY Theory marks");

int t1=Integer.parseInt(br.readLine());

System.out.print("Enter TY Practical marks");

int p=Integer.parseInt(br.readLine());

double avrg=(c\_t+t1+p)/3;

//Calculate grade

     if(avrg>=70.0)

      {

      g="A";

      }

      else if(avrg<70.0 && avrg>=60.0)

       {

         g="B";

      }

else if(avrg<60.0 && avrg>=50.0)

      {

      g="C";

      }

else if(avrg<50.0 && avrg>=40)

      {

  g="Pass";

}

else

g="Fail";

s[i]=new Student(r,na,c\_t,m\_t,e\_t,t1,p,g);

// Display Details

      s[i].show(c\_t,m\_t,e\_t,t1,p,g);

  }

    }

}