Q.1.7 /* Author's Name : Shohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To convert the temperature from Celsius to Fahrenheit.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q1 {
    public static void main (String args[]) {
      Scanner in = new Scanner(System.in);
      System.out.println("Enter the degree in Celsius:");
      double celsius = in.nextDouble();
      double farenheit = (9.0/5)*celsius+32;
      System.out.println(celsius + " celsius is " + farenheit + " farenheit");
    }
  }
```

Output

```
Enter the degree in Celsius:
43.0
43.0 celsius is 109.4 farenheit
```

Q:2:Y /* Author's Name : Shohail Parvej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To compute the area & volume of cylinder.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q2{
    public static void main(String args[]){
        Scanner in = new Scanner(System.in);
    System.out.println("Enter radius and length of the cylinder:");
    double r= in.nextDouble();
    double l= in.nextDouble();
    double a = r*r*Math.PI;
    System.out.println("The area is"+a);
    double v = a*l;
    System.out.println("The volume is "+v);
        }
    }
```

Output

Enter radius and length of the cylinder:
5.5
12
The area is 95.0331
The volume is 1140.4

Q.3.Y

```
/* Author's Name : Shohail Parwej
 * Author's Registration Number : 2141016176
 * Branch-Sec : CSE-008
 * Problem definition : To convert feet to meters.
 * Date : 27/12/2021
 */
import java.util.*;
public class Q3 {
    public static void main (String args[ ]) {
    Scanner in = new Scanner (System.in);
    System.out.println("Enter a value for feet :");
    double f = in.nextDouble ();
    double m = f*0.305 ;
    System.out.println (f+" feet is "+m+" meters");
        }
    }
```

Output

```
Enter a value for feet :
16.5
16.5 feet is 5.0325 meters
```

Q.4.7 /* Author's Name : Shohail Parvej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To find sum of digits of a number.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q4{
    public static void main(String args[]){
      Scanner in = new Scanner(System.in); System.out.println("Enter a value
      int x = in.nextInt();                                    between 0 to 1000");
      int s = 0;
      int r = x%10;
        s = s+r;
        x = x/10;
        r = x%10;
        s = s+r;
        x = x/10;
        r = x%10;
        s = s+r;
        x = x/10;
      System.out.println("The sum of the digits is :"+s);
            }
        }
```

Output

Enter a value between 0 to 1000
999
The sum of the digits is : 27

Q.5.) /*Author's Name : Shohail Parwej
*Author's Registration Number : 2141016146
*Branch-Sec : CSE-008
*Problem definition : To calculate the average acceleration.
*Date : 27/12/2021
*/

```
import java.util.*;
public class Q5{
    public static void main(String args[ ]){
     Scanner in = new Scanner(System.in);
     System.out.println("Enter the values of v0, v1 and t :");
     double v0 = in.nextDouble();
     double v1 = in.nextDouble();
     double t = in.nextDouble();
     double a = (v1-v0)/t;
     System.out.println("The average acceleration is :"+a);
            }
        }
```

Output

Enter the values of v0, v1 and t :
5.5
50.9
4.5
The average acceleration is : 10.0889

```
Q.6.Y /*Author's Name : Shohail Parwej
       * Author's Registration Number : 2141016146
       * Branch-Sec. : CSE-008
       * Problem definition : To calculate the Body Mass Index.
       * Date : 27/12/2021
       */
import java.util.*;
  public class Q6 {
      public static void main(String args[]){
        Scanner in = new Scanner(System.in);
       System.out.println("Enter weight in pounds : ");
        double w = in.nextDouble();
       System.out.println("Enter height in inches :");
       double h = in.nextDouble();
       double kg = w*0.45359237;
        double mt = h*0.0254;
        double BMI = (kg/(mt*mt));
       System.out.println("BMI is :"+BMI);
          }
        }
```

Output

Enter weight in pounds : 95.5
Enter height in inches : 50
BMI is 26.8573

Q.7.) /* Author's Name : Sohail Pawej
* Author's Registration Number : 2141016146
* Branch-CSE : CSE-008
* Problem definition : To compute the area of hexagon.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q7{
    public static void main(String args[]){
        Scanner in = new Scanner (System.in);
        System.out.println("Enter the side : ");
        double s = in.nextDouble();
        double area = ((3*1.732050808*s*s)/2.0);
        System.out.println("The area of the hexagon is : "+ area)
        }
    }
```

Output

```
Enter the side :
 5.5
The area of the hexagon is : 78.5895
```

Q:8.) /* Author's Name : Shehail Parvej
* Author's Registration Number : 2141016176
* Branch-Sec : CSE-008
* Problem definition : To print the given table.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q8 {
    public static void main(String args[]){
        Scanner in = new Scanner(System.in);
        System.out.println("Enter a number :");
        int a = in.nextInt();
        System.out.println("a \t b \t pow(a,b)");
        double p=Math.pow(a,(a+1));
        int po=(int)p;
        System.out.println(a+"\t"+(a+1)+"\t"+po);
        p=Math.pow((a+1),(a+2));
        po=(int)p;
        System.out.println((a+1)+"\t"+(a+2)+"\t"+po);
        p=Math.pow((a+2),(a+3));
        po=(int)p;
        System.out.println((a+2)+"\t"+(a+3)+"\t"+po);
        p=Math.pow((a+3),(a+4));
        po=(int)p;
        System.out.println((a+3)+"\t"+(a+4)+"\t"+po);
        p=Math.pow((a+4),(a+5));
        po=(int)p;
        System.out.println((a+4)+"\t"+(a+5)+"\t"+po);
        p=Math.pow((a+5),(a+6));
```

```
po = (int) p;
System.out.println((a+5)+"\t"+(a+6)+"\t"+po);
    }
}
```

Output

```
Enter a number:
1
a       b       pow(a,b)
1       2       1
2       3       8
3       4       81
4       5       1024
5       6       15625
```

Q.9.) /* Author's Name : Sohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To compute the distance between two points.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q9 {
  public static void main(String args[]){
   Scanner in = new Scanner(System.in);
   System.out.println("Enter x1 and y1:");
   double x1 = in.nextDouble();
   double y1 = in.nextDouble();
   System.out.println("Enter x2 and y2 :");
   double x2 = in.nextDouble();
   double y2 = in.nextDouble();
   double s = ((x2-x1)*(x2-x1) + (y2-y1)*(y2-y1));
   double di = Math.sqrt(s);
   System.out.println("The distance between two points is :"+di);
      }
    }
```

Output

Enter x1 and y1:
1.5
-3.4
Enter x2 and y2:
4
5
The distance between two points is : 8.764131445842194

Q.10.) /*Author's Name : Shohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To compute the area of triangle.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q10{
    public static void main(String args[]){
      Scanner in = new Scanner(System.in);
    double x1,y1,x2,y2,x3,y3;
    System.out.println("Enter three points of a triangle:");
    x1=in.nextDouble();
    y1=in.nextDouble();
    x2=in.nextDouble();
    y2=in.nextDouble();
    x3=in.nextDouble();
    y3=in.nextDouble();
  double s1=(((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1)));
  double Side1=Math.sqrt(s1);
  double s2=(((x3-x2)*(x3-x2))+((y3-y2)*(y3-y2)));
  double Side2=Math.sqrt(s2);
  double s3=(((x1-x3)*(x1-x3))+((y1-y3)*(y1-y3)));
  double Side3=Math.sqrt(s3);
  double s=(Side1+Side2+Side3)/2;
  double area=Math.sqrt(s*(s-Side1)*(s-Side2)*(s-Side3));
  System.out.println("The area of the triangle is :"+area);
      }
    }
```

Output

Enter three points of a triangle:
1.5 -3.4 4.6 5 9.5 -3.4
The area of the triangle is 33.6

Q.11.7 /* Author's Name : Shohail Parwez
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To calculate the future investment value.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q11{
    public static void main(String args[]){
        Scanner in = new Scanner(System.in);
        System.out.println("Enter investamount:");
        double investmentAmount = in.nextDouble();
        System.out.println("Enter annual interest rate in percentage:");
        double annualinterestrate = in.nextDouble();
        System.out.println("Enter number of years:");
        double numberofYears = in.nextDouble();
        double monthlyInterestRate = annualinterestrate/1200;
        double futureInvestmentValue = investamentAmount*(Math.pow
                                                    (1+monthlyInterestRate,
                                                    numberofYears*12));
        System.out.println("Accumulated value is $"+futureInvestmentValue);
    }
}
```

Output

Enter investment amount : 1000.56
Enter annual interest rate in percentage : 4.25
Enter number of years : 1
Accumulated value is $1043.92

Q.12.7 /*Author's Name : Sohail Parwej
*Author's Registration Number : 2141016146
*Branch-Sec : CSE-008
* Problem definition : To calculate the number of gross, dozen and left eggs.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q12 {
    public static void main(String args[]){
    Scanner in = new Scanner(System.in);
    System.out.println("Enter the amount of eggs :");
    int egg = in.nextInt();
    int gross = egg/144;
    egg = egg%144;
    int dozen = egg/12;
    int rem = egg%12;
    System.out.println("Your number of eggs is "+gross+" gross, "+
                                                dozen+"dozen and "+rem);
    }
}
```

Output

Enter the amount of eggs :
1342
Your number of eggs is 9 gross, 3 dozen and 10

Q.13.) /*Author's Name : Sohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To calculate the number of years and days.
* Date : 27/12/2021
*/

```
import java.util.*;
public class Q13{
  public static void main(String args[]){
  Scanner in = new Scanner(System.in);
  System.out.println("Enter number of minutes :");
  int d=in.nextInt();
  int mul= 60*24*365;
  int y = d/mul;
  int da = d%mul;
  int day= da/(60*24);
  System.out.println( d+" minutes is approximately "+y+
                      " years and "+day+"days ");
  }
}
```

Output

Enter number of minutes :
1000000000
1000000000 minutes is approximately 1902 years and 214 days

Using Command-Line Arguments

```
Q.14.7 /* Author's Name : Sohail Parwej
          * Author's Registration Number : 2141016146
          * Branch-Sec : CSE-008
          * Problem definition : To take two positive integers & print true
                                  if either evenly divides the other.
          * Date : 27/12/2021
          */
public class Q14 {
    public static void main (String args[]) {
    System.out.println("Enter two numbers :");
    int a = Integer.parseInt (args[0]);
    int b = Integer.parseInt (args[1]);
    boolean x = (a%b==0 || b%a==0);
    System.out.println(x);
    }
}
```

Output

```
Enter two numbers :
2
4
false
```

Q.15.) /* Author's Name : Sohail Parvej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To generate random number between two numbers.
* Date : 27/12/2021
*/

```
public class Q15{
 public static void main(String args[]){
  int a = Integer.parseInt(args[0]);
  int b = Integer.parseInt(args[1]);
  int r = a+(int)(Math.random()*(b-a+1));
  System.out.println(r);
   }
 }
```

Output

2
7

5

Q.16.) /* Author's Name: Shohail Parvej
* Author's Registration Number: 2141016146
* Branch-Sec: CSE-008
* Problem definition: To print sum of two random integer between 1 & 6.
* Date: 27/12/2021
*/

```
public class Q16{
 public static void main(String args[]){
  int a = Integer.parseInt(args[0]);
  int b = Integer.parseInt(args[1]);
  int s1 = a + (int)(Math.random()*(b-a+1));
  int s2 = a + (int)(Math.random()*(b-a+1));
  int sum = s1 + s2;
  System.out.println(sum);
    }
  }
```

Output

1
6

7

Q.17.) /* Author's Name : Sohail Parvej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To take three positive integers and print true if any one of them is greater than or equal to sum of other two and false otherwise.
* Date : 27/12/2021
*/

```
public class Q17{
  public static void main(String args[]){
   int a = Integer.parseInt(args[0]);
   int b = Integer.parseInt(args[1]);
   int c = Integer.parseInt(args[2]);
   boolean x = ((b+c)<=a || (a+c)<=b || (b+a)<=c);
   System.out.println(x);
    }
  }
```

Output

2
3
4

false

Q.18.) /* Author's Name : Shohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To print true if entered three values are strictly increasing or decreasing.
* Date : 27/12/2021
*/

```
public class Q18 {
  public static void main(String args[]) {
  double a = Double.parseDouble(args[0]);
  double b = Double.parseDouble(args[1]);
  double c = Double.parseDouble(args[2]);
  boolean x = (a>b)&&(b>c)||(a<b)&&(b<c);
  System.out.println(x);
    }
  }
```

Output

4.0
5.7
6.2

true

Q.19.) /* Author's Name : Shahil Parvej
* Author's Registration Number : 2141016176
* Branch-Sec : CSE-008
* Problem definition : To compute the gross salary.
* Date : 27/12/2021
*/

```
public class Q19{
    public static void main(String args[ ]){
     int a= Integer.parseInt(args[0]);
      int DA,HRA;
      DA= a*40/100;
      HRA= a*20/100;
      int gross = a+DA+HRA;
      System.out.println(gross);
        }
    }
```

Output

40000

64000

Q:20 /*Author's Name : Sohail Parwez
*Author's Registration Number : 2171016146
*Branch-Sec : CSE-008
*Problem definition : To check if day 'd' of month 'm' is between 3/20 and 6/20.
*Date : 27/12/2021
*/

```
public class Q20{
    public static void main (String args[]){
    int m=Integer.parseInt(args[0]);
    int d=Integer.parseInt(args[1]);
    boolean x=(m==3)&&(d>=21)&&(d<=31)||(m==4)&&(d>=1)&&
              (d<=30)||(m==5)&&(d>=1)&&(d<=31)||
              (m==6)&&(d>=1)&&(d<=20);
    System.out.println(x);
    }
}
```

Output

```
7
20

false
```

21-Y /*Author's Name : Sohail Parvej
*Author's Registration Number : 2141016176
*Branch-Sec : CSE-008
*Problem definition : To print value of sin(2t)+sin(3t).
*Date : 27/12/2021
*/

```
public class Q21 {
    public static void main(String args[]) {
    double t = Double.parseDouble(args[0]);
    double p = Math.toRadians(t);
    double a;
    a = Math.sin(2*t) + Math.sin(3*t);
    System.out.println(a);
    }
}
```

Output

2.0

21-Y /*Author's Name : Sohail Parwez
*Author's Registration Number : 2141016176
*Branch-Sec. : CSE-008
*Problem definition : To print value of sin(2t)+sin(3t).
*Date : 27/12/2021
*/

```
public class Q21{
    public static void main(String args[]){
    double t=Double.parseDouble(args[0]);
    double p=Math.toRadians(t);
    double a;
    a=Math.sin(2*t)+Math.sin(3*t);
    System.out.println(a);
    }
}
```

Output

2.0

32.741

22.Y /*Author's Name: Sohail Parvej
*Author's Registration Number: 2141016146
*Branch-Sec: CSE-008
*Problem definition: To calculate the monthly payments.
*Date: 27/12/2021
*/

```
public class Q22{
    public static void main(String args[]){
    double t = Double.parseDouble(args[0]);
    double p = Double.parseDouble(args[1]);
    double r = Double.parseDouble(args[2]);
    double I;
    I = p* Math.exp(r*t);
    System.out.println(I);
        }
    }
```

Output

21000
12000
10000

37530

23.7 /*Author's Name : Sohail Parwej
*Author's Registration Number : 2141016146
*Branch-Sec : CSE-008
*Problem definition : To print 3 integers in ascending order.
*Date : 27/12/2021
*/

```
public class Q23{
  public static void main(String args[]){
   int a=Integer.parseInt(args[0]);
   int b=Integer.parseInt(args[1]);
   int c=Integer.parseInt(args[2]);
   int m1=Math.max(a,Math.max(b,c));
   int m2=Math.min(a,Math.max(b,c));
   int tot=a+b+c;
   int m3=tot-(m1+m2);
   System.out.println(m2+" "+m3+" "+m1);
  }
}
```

Output :-

```
7
9
5

5 7 9
```

```
24.7 /* Author's Name : Sohail Parwej
* Author's Registration Number : 2141016146
* Branch-Sec : CSE-008
* Problem definition : To print five random values & find their
                        average, minimum, maximum value.
* Date : 27/12/2021
*/

public class Q24{
    public static void main(String args[ ]){
    double a1=Math.random();
    double a2=Math.random();
    double a3=Math.random();
    double a4=Math.random();
    double a5=Math.random();
    double avg=(a1+a2+a3+a4+a5)/5;
  double max=Math.max(a1,Math.max(a2,Math.max(a3,Math.max(a4,a5))));
  double min=Math.min(a1,Math.min(a2,Math.min(a3,Math.min(a4,a5))));
  System.out.println(a1+" "+a2+" "+a3+" "+a4+" "+a5);
  System.out.println("Average :"+avg);
  System.out.println("Max :"+max);
  System.out.println("Min :"+min);
    }
}
```

Output

```
2.0
4.0
5.0
8.0
3.0

Average : 4.4
Max : 8.0
Min : 2.0
```