HW

W.A.P to accept a number and check if the no. is Emrip no. or not. A number is called Emrip if the original and the reverse of the number both are prime. Eg: 13, etc..

int rev (int x): returns the reverse of a number
boolean prime (int x): returns true for the prime and false for composite number.

Also write the main method to input a number and check if it is Emrip or not using above functions.

```
import java.util.*;
class Emrip
{
  int rev (int x)
  {
    int d, r=0;
    for (int i = x; i>0; i=i/10)
    {
      d = i%10;
      r = r*10+d;
    }
   return r;
  }
```

```
boolean prime (int x)
{
 int c=0;
 for (int i=1;i<=x;i++)
 {
  if(x%i==0)
   c++;
 }
 if(c==2)
 return true;
 else
 return false;
}
public static void main (String args[])
{
 Emrip ob = new Emrip ();
 Scanner obj = new Scanner(System.in);
 int n= ~~21~~ obj.nextInt();
 int r= ob.rev(n);
 if( ob.prime(n))
 { if(ob.prime (r))
   Sopln(n+" is an Emrip no.");
```

```
 else
 Sopln(n+" is not an
       Emrip no.");
 }
}
}
```

* Function Overloading *

* Two or more functions with same name but with different no. or types of parameters.

Eg

```
class Demo
{
void product (int a, int b)
 { int p= a*b;
   sopln ( p);
 }
double product (int a, int b, int c)
 {
  double p2 = a * b * c;
 return p2;
 }
 public static void main ( string args[])
 {
  Demo ob = new Demo ();
  ob. product (10,7);
} } Sopln(ob. product (5, 6, 8));
```

* **Function Prototype** ⇒ It is part of function definition definition statement which tells about return of the function, name of the function & no. & types of parameters. Func^n Prototype

Eg:

```
public static int sum (int x, int y)
```

* **Function Signature** ⇒ It is a part of function prototype. It tells about no. & types of parameter.

Q Write a function average which accepts three integers as argument and returns a real value.

Ans ⇒

```
double average (int a, int y, int z)
```

Function Signature ⇒ Three arguments of int data type.

HW

W.A.P with an overloading function volume as follows:

void volume (int s) : To pr int and find volume of a cube.

void volume (int L, int B, int W) : To accept length, breadth and width of a cuboid.

double volume(int R, int H) : To accept radius and height of a cylinder to find volume ($\pi r^2 h$), take $\pi = 22/7$.

Also write main method to call the above functions.

Design a class to overload a function area() as follows :

i) double area (double a, double b, double c) with three double arguments, returns the area of a scalene triangle using the formula :

area = $\sqrt{(s(s-a)(s-b)(s-c))}$

where s = (a+b+c)/2

ii) double area (int a, int b, int height) with three integer arguments, returns the area of a trapezium using the the formula:

area = height(a+b)/2

iii) double area (double diagonal1, double diagonal2) with two double arguments, returns the area of a rhombus using the formula:

area = (diagonal1*diagonal2)/2

Also write the main method to call the above functions.

Design a class to overload a function Polygon as follows:

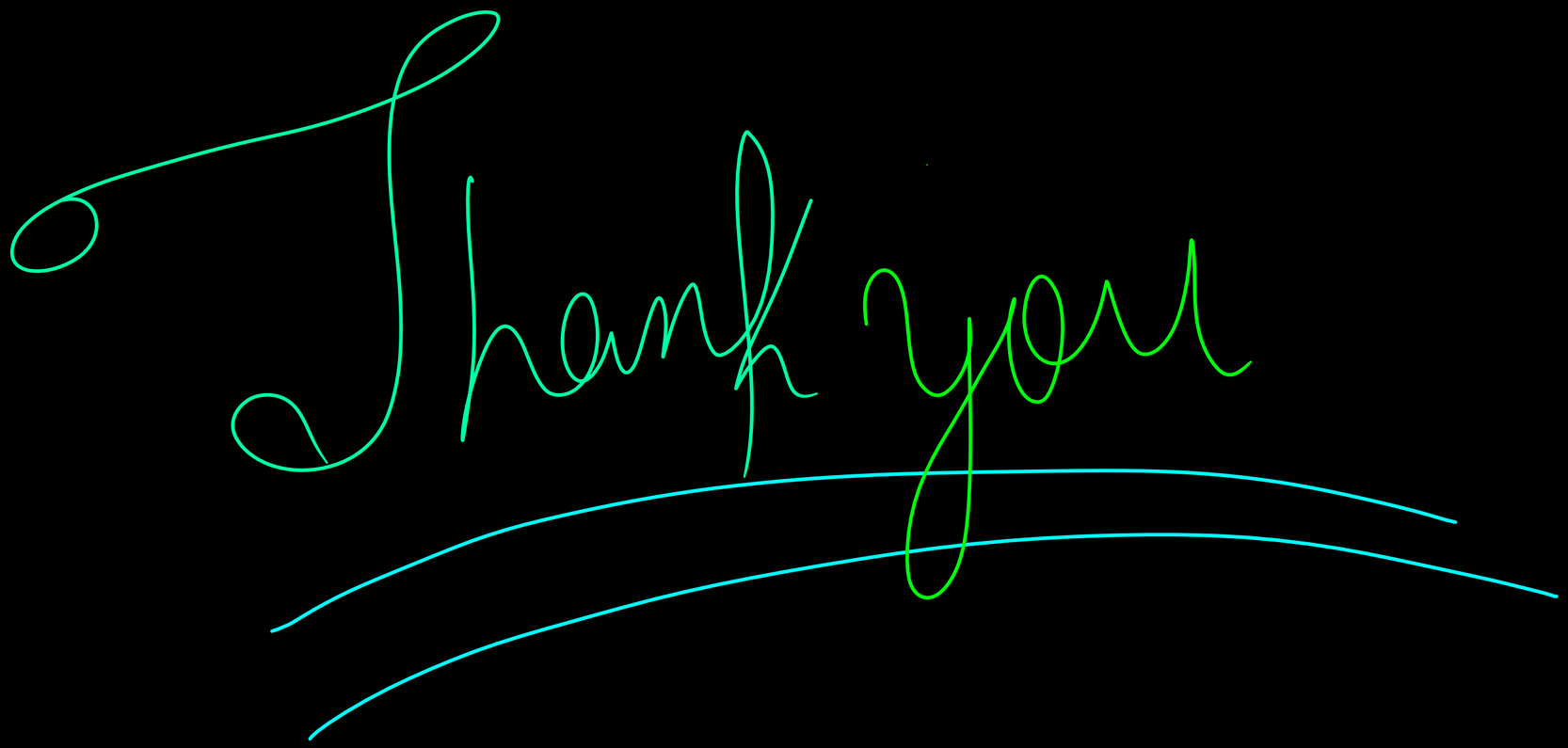
i) void Polygon (int n, char ch) : with one integer argument and one character argument that draws a filled square of side n using the character stored in ch

ii) void Polygon (int x, int y) : with two integer arguments that draws a filled rectangle of length x and breadth y, using the symbole '@'

iii) void Polygon () : with no argument that draws a filled triangle as shown below

```
*
* *
* * *
```

Homework ⇒ Do the marked Questions.


Thank you