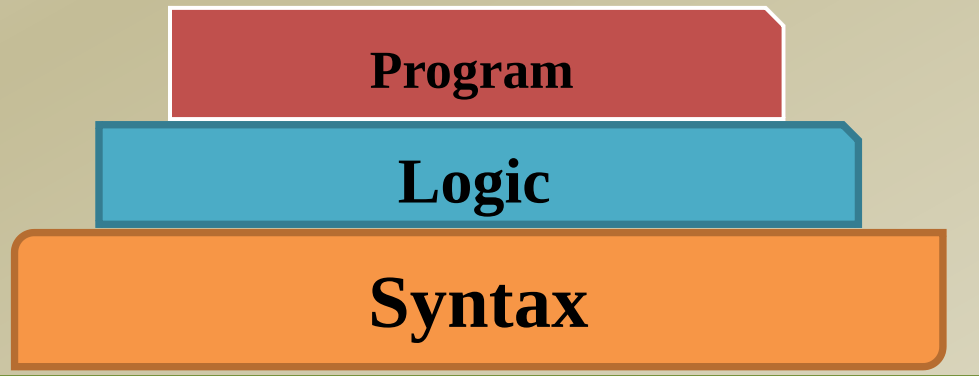
Code at Random (OPC) PVT. LTD.

Nested Loops: Range Programming



Problems Set

1. WAP to print all prime numbers from 1 to n, where n will be given by the user.
2. WAP to print all perfect numbers from 1 to n, where n will be given by the user.
3. WAP to print all palindrome numbers from 1 to n, where n will be given by the user.
4. WAP to print all Armstrong numbers from 1 to n, where n will be given by the user.
5. WAP to print all buzz numbers from 1 to n, where n will be given by the user.
6. WAP to print all Automorphic numbers from 1 to n, where n will be given by the user.
7. WAP to print all Perfect Squares from 1 to n, where n will be given by the user.

Prime Numbers From 1 to n.

Original Program

```
import java.util.*;
class prime {
    int n,i,c=0;
   public static void main(String Args[ ])  {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();
        for(i=2;i<;i++)  {
            if(n%i==0) {
                c=1;
                break;
            }
      }
 if(c==0)
                System.out.println("Prime Number");
            else
                System.out.println("Not a prime number");
    }
}
```

Range Program

```
import java.util.*;
 class prime {
  public static void main(String Args[])    {
     int c=0,n;
        Scanner sc= new Scanner(System.in);
       n= sc.nextInt();
     System.out.println(“Prime no’s Btw 1 and 1000 are: ”);
     for(int i=1;i<=n;i++)
     {
        c=0;
        for(int j=2;j<i;j++)
        {
          if(i%j==0)
          {
             c++;
          }
        }
        if(c==0)
           System.out.print(i+“\t");
     }
  }
}
```

Perfect Numbers From 1 to n.

Original Program

```
import java. util. *;
class perfect {
    public static void main(String[] Args)  {
     int i,n,s=0;
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter a number");
     n=sc.nextInt();
     for(i=1;i<n;i++)  {
        if(n%i==0)
           s=s+i;
     }
 if(s==n)
        System.out.println("Perfect Number");
     else
        System.out.println("Not a perfect number");
    }
}
```

Range Program

```
import java.util.*;
class perfect {
  public static void main(String Args[ ])   {
    int sum=0;
    Scanner sc = new Scanner(System.in);
    int n =sc.nextInt();
    for(int i=1;i<=n;i++)
    {
       sum=0;
       for(int j=1;j<i;j++)
       {
         if(i%j==0)
         {
             sum=sum+j;
          }
        }
        if(sum==i)
           System.out.print(i+"\t");
    }
  }
}
```

Palindrome Numbers From 1 to n.

Original Program

```
class palindrome {
    public static void main(String[] Args)   {
        int n,d,r=0,t;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();
        t=n;
        while(n>0)  {
            d=n%10;
            r=r*10+d;
            n=n/10;
        }
        if(t==r)
            System.out.println("Palindrome Number");
       else
          System.out.println("Not a Palindrome Number");
    }
}
```

Range Program

```
import java.util.*;
class palindrome {
  public static void main(String args[])  {
     int r=0,n,d,t;
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the limit");
     n=sc.nextInt();
   System.out.println("Pallindrome no Btw 1 and "+n+ " are: ");
     for(int i=1;i<=n;i++)
     {
        r=0;
        t=i;
        while(i>0)
        {
          d=i%10;
          r=r*(10+d);
          i=i/10;
         }
         if(r==t)
            System.out.print(i+"\t");
     }
  }
}
```

Armstrong Numbers From 1 to n.

Original Program

```
class Armstrong {
    public static void main(String[] Args)  {
        int n,d,s=0,t;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();
        t=n;
       while(t>0) {
            d=t%10;
            s=s+(d*d*d);
            t=t/10;
        }
        if(n==s)
            System.out.println("Armstrong Number");
        else
        System.out.println("Not a armstrong number");
    }
}
```

Range Program

```
import java.util.*;
class Armstrong {
  public static void main(String args[])    {
     int s=0,n,d,t;
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the limit");
     n=sc.nextInt();
     System.out.println("Armstrong no Btw 1 and "+n+ " are:
");
     for(int i=1;i<=n;i++)
     {
        s=0;
        t=i;
        while(i>0)
        {
          d=i%10;
          s=s+d*d*d;
          i=i/10;
         }
         if(s==t)
           System.out.print(i+"\t");
       }
  }
}
```

Buzz Numbers From 1 to n.

Original Program

```
class buzz {
    public static void main(String[] Args)  {
        int n;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();

       if(n%10==7 || n%7==0)
            System.out.println(“Buzz Number");
        else
        System.out.println("Not a Buzz number");
    }
}
```

Range Program

```
import java.util.*;
class buzz{
  public static void main(String args[])    {
     int n;
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the limit");
     n=sc.nextInt();
    System.out.println(“Buzz no Btw 1 and "+n+ " are:");
     for(int i=1;i<=n;i++)
     {
         if ( i%10 == 7 || i%7== 0)
              System.out.println (i+ “ ”);
          }
  }
}
```

Automorphic Numbers From 1 to n.

Original Program

```
import java.util.Scanner;
public class Automorphic {
   public static void main(String args[]) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter a number");
      int num = sc.nextInt();
      int c=0, sqr = num*num;
      int temp =num;  //copying num
     while(temp>0){
         c++;
         temp=temp/10;
      }
      double lastSquareDigits =  sqr%(Math.pow(10,c));
      if(num == lastSquareDigits)
         System.out.println("Automorphic number");
      else
    System.out.println("Not an Automorphic number");
   }
}
```

Range Program

```
import java.util.*;
class automorphic{
  public static void main(String args[])    {
     int n,c,sqr,t,lastsqdig;
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the limit");
     n=sc.nextInt();
    System.out.println("Buzz no Btw 1 and "+n+ " are:");
     for(int i=1;i<=n;i++)
      {
          t=i, c=0, sqr=i*i;
          while(i>0){
                 c++;
                i=i/10;
             }
         double lastsqdig =  sqr%(Math.pow(10,c));
         if(t == lastsqdig)
            System.out.println(i+ " ");
      }
}
```

Perfect Squares From 1 to n.

Original Program

```
import java.util.*;
class perfect_square {
    public static void main(String[ ] Args) {
        int n, s=0 , i=1;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();
        while(s<=n){
            s=i*i;
           if(s == n) {
            System.out.println(“Perfect Square");
            break;
      }
      else if(s>n)
        System.out.println(“Not a Perfect Number");
     else
         i++;
   }
}
```

Range Program

```
import java.util.*;
class perfect_square{
  public static void main(String args[])    {
     int n,s=0;
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the limit");
     n=sc.nextInt();
    System.out.println(“Squares Btw 1 and "+n+ " are:");
     for(int i=1;i<=n;i++)  {
              j=1;
           while(s<=i){
                s=j*j;
               if(s==i)
                  System.out.println(i+ “ ”);
               j++;
            }
        }
    }
}
```