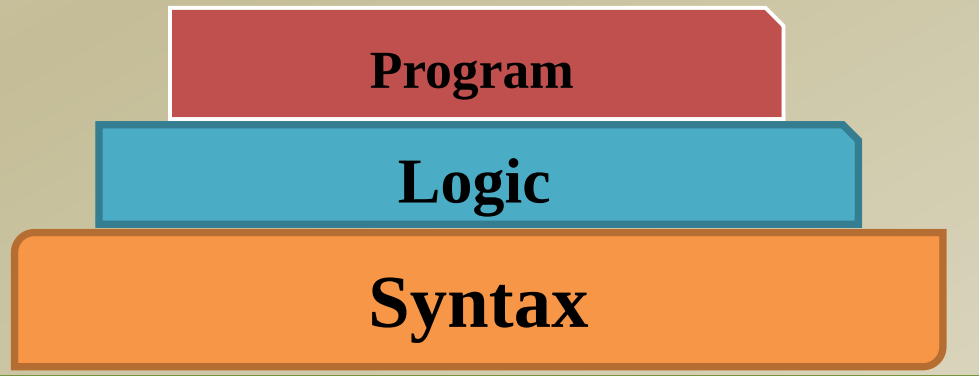
Code at Random
(OPC) PVT. LTD.

Program to check whether a number is prime or not.



What is a prime number?

- A prime number is a positive integer that is divisible only by 1 and itself. For example: 2, 3, 5, 7, 11, 13, 17

or

- A prime number is a number which has only two factors.
- For Example: 6 has factors 1,2,3,6 i.e., 4 factors which states it is not a prime number.
- Similarly, 5 has factor 1 and 5 i.e., 2 factors which says it is a prime number.

How to find Factors??

- To find the factors of a number n we will write our code like this,

```
for(i=1; i<=n; i++)
{
   if(n%i==0)
    {
      Sop(i);
     }
}
```

Counting Factors

- Now, the second part is to count the number of factors of a number n and check whether the number of factors are 2 or not
- To do this, we will write our code like this,

```
int c=0;
for (i=1; i<=n; i++)
{
 if(n%i==0)
   c++;
 }
 if ( c==2)
Sop(“Prime Number”);
```

Final Java Program

```
import java.util.*;
class prime
{
   int n,i,c=0;
   void main()
   {
      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)
         {
            c++;
         }
    }
if(c==2)
         {
            System.out.println("Prime Number");
         }
         else
         {
            System.out.println("Not a prime number");
         }

   }
}
```

Method ii- Checking Prime Number

```
import java. util. *;

class prime2
{
   void main()
   {
     int i,n,flag=0;
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter a number");
     n=sc.nextInt();
     for(i=2;i<n;i++)
     {
      if(n%i==0)
      {
      flag=1;
      break;
      }
    }
    if(flag==1)
      {
        System.out.println("It is not a prime number");
      }
      else
      {
        System.out.println("It is a prime number");
      }

    }
}
```