

## Talent Battle 100 Days Coding Series

Write a program to identify if the number is Prime number or not

### Description

Get a number as input from the user and check whether that number is prime or not.

A prime number is a number with factors as 1 and that number itself.

### Input

1

### Output

1 is not a prime number

### Input

5

### Output

5 is a prime number

### C Program

#### Method 1

```
#include <stdio.h>

int main()
{
    int i,count=0;
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    for(i=1;i<=num;i++)
    {
        if(num%i==0)
            count++;
    }
}
```

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```
if(num<=1)
    printf("%d is not a prime number", num);
else if(count > 2)
    printf("%d is not a prime number", num);
else
    printf("%d is a prime number", num);
return 0;
}
```

### Method 2

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int i, flag=0;
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    if(num<=1)
    {
        printf("%d is not a prime number", num);
        exit(1);
    }
    for(int i=2; i<=num/2; i++)
    {
        if(num%i==0)
        {
            flag=1;
            break;
        }
    }
}
```

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```
    }  
}  
if(flag==1)  
    printf("%d is not a prime number", num);  
else  
    printf("%d is a prime number", num);  
return 0;  
}
```

### Method 3

```
#include <stdio.h>  
#include <stdlib.h>  
#include <math.h>  
int main()  
{  
    int i, flag=0;  
    int num;  
    printf("Enter a number: ");  
    scanf("%d", &num);  
    if(num <= 1)  
    {  
        printf("%d is not a prime number", num);  
        exit(1);  
    }  
    for(int i=2; i<=sqrt(num); i++)  
    {  
        if(num%i==0)  
        {  
            flag=1;
```

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```
        break;
    }
}
if(flag==1)
    printf("%d is not a prime number", num);
else
    printf("%d is a prime number", num);
return 0;
}
```

### Method 4

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
int main()
{
    int i, flag=0;
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    if(num <= 1)
    {
        printf("%d is not a prime number", num);
        exit(1);
    }
    for(int i=2; i <= sqrt(num); i=i+2)
    {
        if(num%i==0)
        {
```

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```
        flag=1;
        break;
    }
}
if(flag==1)
    printf("%d is not a prime number", num);
else
    printf("%d is a prime number", num);
return 0;
}
```

### C++ Program

#### Method 1

```
#include <iostream>
using namespace std;
int main()
{
    int i,count=0;
    int num;
    cout<<"Enter a number: ";
    cin>>num;
    for(i=1;i<=num;i++)
    {
        if(num%i==0)
            count++;
    }
```

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```
}  
if(num<=1)  
    cout<<num<<" is not a prime number";  
else if(count>2)  
    cout<<num<<" is not a prime number";  
else  
    cout<<num<<" is a prime number";  
return 0;  
}
```

### Method 2

```
#include <iostream>  
using namespace std;  
int main()  
{  
    int i,flag=0;  
    int num;  
    cout<<"Enter a number: ";  
    cin>>num;  
    if(num<=1)  
    {  
        cout<<num<<" is not a prime number";  
        exit(1);  
    }  
    for(int i=2;i<=num/2;i++)  
    {  
        if(num%i==0)  
        {  
            flag=1;
```

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```
        break;
    }
}
if(flag==1)
    cout<<num<<" is not a prime number";
else
    cout<<num<<" is a prime number";
return 0;

}
```

### Method 3

```
#include <iostream>
#include <math.h>
using namespace std;
int main()
{
    int i, flag=0;
    int num;
    cout<<"Enter a number: ";
    cin>>num;
    if(num<=1)
    {
        cout<<num<<" is not a prime number";
        exit(1);
    }
    for(int i=2; i<=sqrt(num); i++)
    {
        if(num%i==0)
```

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```
{
    flag=1;
    break;
}
}
if(flag==1)
    cout<<num<<" is not a prime number";
else
    cout<<num<<" is a prime number";
return 0;
}
```

### Method 4

```
#include <iostream>
#include<math.h>
using namespace std;
int main()
{
    int i,flag=0;
    int num;
    cout<<"Enter a number: ";
    cin>>num;
    if(num<=1)
    {
        cout<<num<<" is not a prime number";
        exit(1);
    }
    for(int i=2;i<=sqrt(num);i=i+2)
```

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## Talent Battle 100 Days Coding Series

```
{  
    if(num%i==0)  
    {  
        flag=1;  
        break;  
    }  
}  
if(flag==1)  
    cout<<num<<" is not a prime number";  
else  
    cout<<num<<" is a prime number";  
return 0;  
}
```

### Java Program

#### Method 1

```
import java.util.Scanner;  
public class Main  
{  
    public static void main(String[] args) {  
        Scanner sc=new Scanner(System.in);  
        System.out.println("Enter a number");  
        int num=sc.nextInt();  
        int count=0;  
        if(num<=1)  
            System.out.println(num+" is not a prime number");  
        else  
        {
```

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```
for(int i=2;i<=num;i++)
{
    if(num%i==0)
    {
        count++;
    }
}
if(count>2)
System.out.println(num+" is not a prime number");
else
System.out.println(num+" is a prime number");
}
}
```

### Method 2

```
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter a number");
        int num=sc.nextInt();
        int flag=0;
        if(num<=1)
            System.out.println(num+" is not a prime number");
        else
        {
            for(int i=2;i<num;i++)
```

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```
{
    if(num%i==0)
    {
        flag=1;
        break;
    }
}
if(flag==1)
    System.out.println(num+" is not a prime number");
else
    System.out.println(num+" is a prime number");
}
}
```

### Method 3

```
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter a number");
        int num=sc.nextInt();
        int flag=0;
        if(num<=1)
            System.out.println(num+" is not a prime number");
        else
        {
            for(int i=2;i<=num/2;i++)
```

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```
{
    if(num%i==0)
    {
        flag=1;
        break;
    }
}
if(flag==1)
System.out.println(num+" is not a prime number");
else
System.out.println(num+" is a prime number");
}
}
```

### Python

```
num=int(input("Enter a number:"))
flag=0
for i in range(2,num):
    if num%i==0:
        flag=1
        break
if(num<=1):
    print("Not a prime number")
elif(flag==1):
    print("Not a prime number")
else:
    print("Is a prime number")
```

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