

Write a program to express a number as a sum of two prime numbers

Description

Get a number as input from the user and express that number as sum of two prime numbers.

Input

4

Output

4 can be expressed as sum of 2 and 2

C Program

```
#include <stdio.h>
```

```
int sumprimes(int n)
```

```
{
```

```
    int i, isPrime = 1;
```

```
    for(i = 2; i <= n/2; ++i)
```

```
    {
```

```
        if(n % i == 0)
```

```
        {
```

```
            isPrime = 0;
```

```
            break;
```

```
        }
```

```
    }
```

```
    return isPrime;
```

```
}
```

```
int main()
```

```
{
```

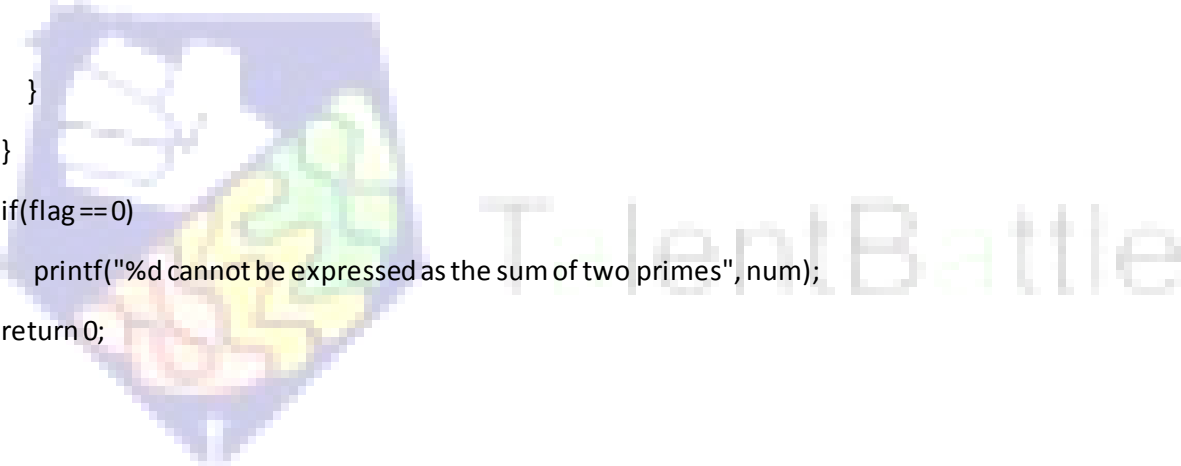
```
    int num, i;
```

```
    printf("Insert the num: ");
```

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```
scanf("%d", &num);
int flag = 0;
for(i = 2; i <= num/2; ++i)
{
    if(sumprimes(i) == 1)
    {
        if(sumprimes(num-i) == 1)
        {
            printf("%d can be expressed as the sum of %d and %d", num, i, num-i);
            flag = 1;
        }
    }
}
if(flag == 0)
    printf("%d cannot be expressed as the sum of two primes", num);
return 0;
}
```



C++ Program

```
#include <iostream>
using namespace std;
int sumprimes(int n)
{
    int i, isPrime = 1;
    for(i = 2; i <= n/2; ++i)
    {
        if(n % i == 0)
```

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```
{
    isPrime = 0;
    break;
}
}
return isPrime;
}

int main()
{
    int num, i;
    cout<<"Insert the num: ";
    cin>>num;
    int flag = 0;
    for(i = 2; i <= num/2; ++i)
    {
        if(sumprimes(i) == 1)
        {
            if(sumprimes(num-i) == 1)
            {
                cout<<num<<" can be expressed as the sum of "<<i<<" and "<<num-i;
                flag = 1;
            }
        }
    }
    if(flag == 0)
        cout<<num<<" cannot be expressed as the sum of two primes";
    return 0;
}
```

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Java Program

```
import java.util.Scanner;


public class Main
{
    static int sumprimes(int n)
    {
        int i, isPrime = 1;
        for(i = 2; i <= n/2; ++i)
        {
            if(n % i == 0)
            {
                isPrime = 0;
                break;
            }
        }
        return isPrime;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter a number : ");

        int num = sc.nextInt();

        int flag = 0;
        for(int i = 2; i <= num/2; ++i)
        {
            if(sumprimes(i) == 1)
            {
                if(sumprimes(num-i) == 1)
                {
                    System.out.println(num+" can be expressed as the sum of "+i+" and "+(num-i));
                }
            }
        }
    }
}
```

The logo for TalentBattle is a large, stylized number '2' in the background. The left vertical stroke of the '2' is a solid blue rectangle. The right vertical stroke is a yellow rectangle with a green, jagged, mountain-like pattern on its right side. The horizontal base of the '2' is a yellow rectangle with a green, jagged, mountain-like pattern on its top side. The word 'TalentBattle' is written in a light blue, sans-serif font across the middle of the image, partially overlapping the '2'.

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```
        flag = 1;
    }
}
}
if(flag == 0)
    System.out.println(num + " cannot be expressed as the sum of two primes");

}
```

Python

```
num = int(input('Enter a number:'))
arr = []
for i in range(2, num):
    flag = 0
    for j in range(2, i):
        if i % j == 0:
            flag = 1
    if flag == 0:
        arr.append(i)
flag = 0
for i in range(len(arr)):
    for j in range(i+1, len(arr)):
        if (arr[i] + arr[j] == num):
            flag = 1
            print(str(num) + " can be expressed as the sum of " + str(arr[i]) + " and " + str(arr[j]))
            break
if(flag == 0):
    print('No Prime numbers can give sum of ' + str(num))
```



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