

9. Write a program to check a number is a prime number or not using recursion.

PROGRAM:

```
def is_prime(num, i=2):  
    if num <= 2:  
        return num == 2  
    if num % i == 0:  
        return False  
    if i * i > num:  
        return True  
    return is_prime(num, i + 1)  
  
num = int(input("Enter a number: "))  
if is_prime(num):  
    print(num, "is a prime number")  
else:  
    print(num, "is not a prime number")
```

INPUT:

```
Enter a number: 7
```

OUTPUT:

```
7 is a prime number
```

TIME COMPLEXITY:

Time complexity of the above code is

$f(n)=O(n)$