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

Aim: 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)


# Test the function
num = 29
if is_prime(num):
    print(f"{num} is a prime number")
else:
    print(f"{num} is not a prime number")
```
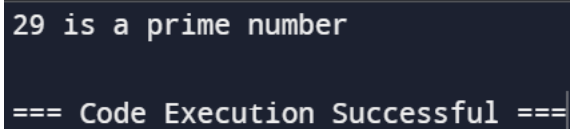
Output:

Time complexity:-O($\sqrt{n}$)