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

Program:-

```python
def is_prime(n, i=2):
    if n <= 2:
        return n == 2
    if n % i == 0:
        return False
    if i * i > n:
        return True
    return is_prime(n, i + 1)


# Test the function
num = 17
if is_prime(num):
    print(f"{num} is a prime number.")
else:
    print(f"{num} is not a prime number.")
```

output:-

```
17 is a prime number.

=== Code Execution Successful ===
```

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