CSA0670-Design and Analysis of Algorithms for Tractability Problems.

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

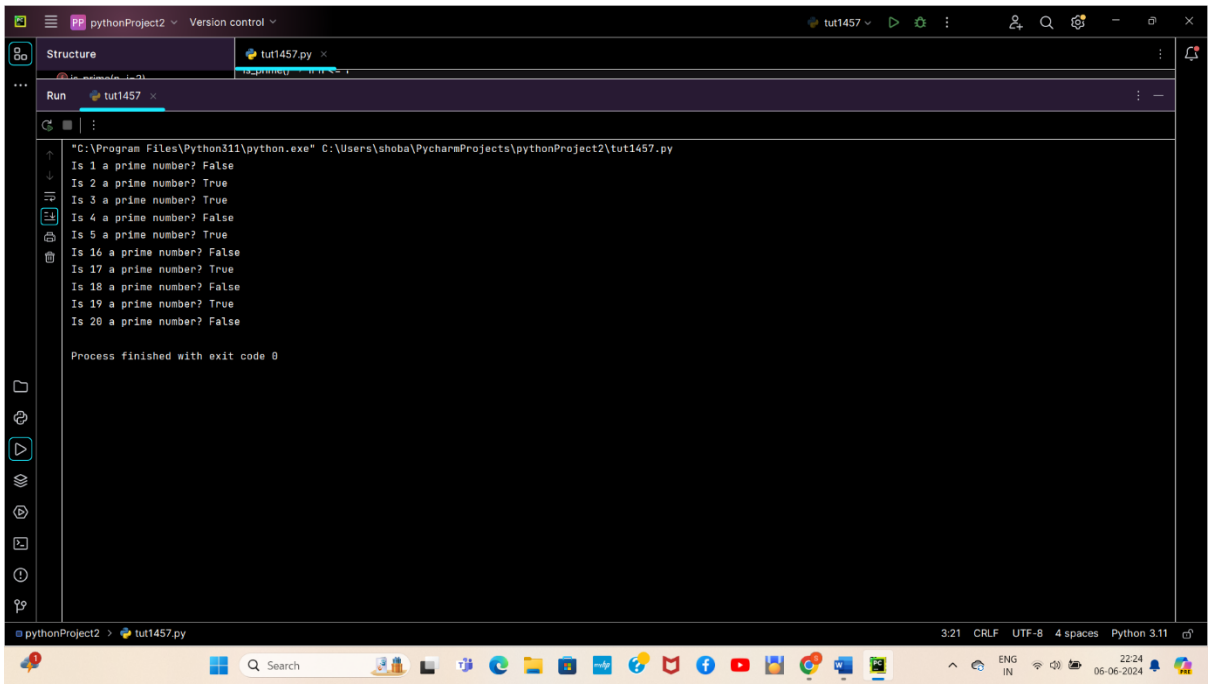
Program:

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

numbers = [1, 2, 3, 4, 5, 16, 17, 18, 19, 20]

for num in numbers:
    print("Is {} a prime number? {}".format(num, is_prime(num)))
```

Output:



Time Complexity: O(√n)