

## CSA0670-Design and Analysis of Algorithms for Tractability Problems.

10. Write a program for to check whether a given String is Palindrome or not using recursion.

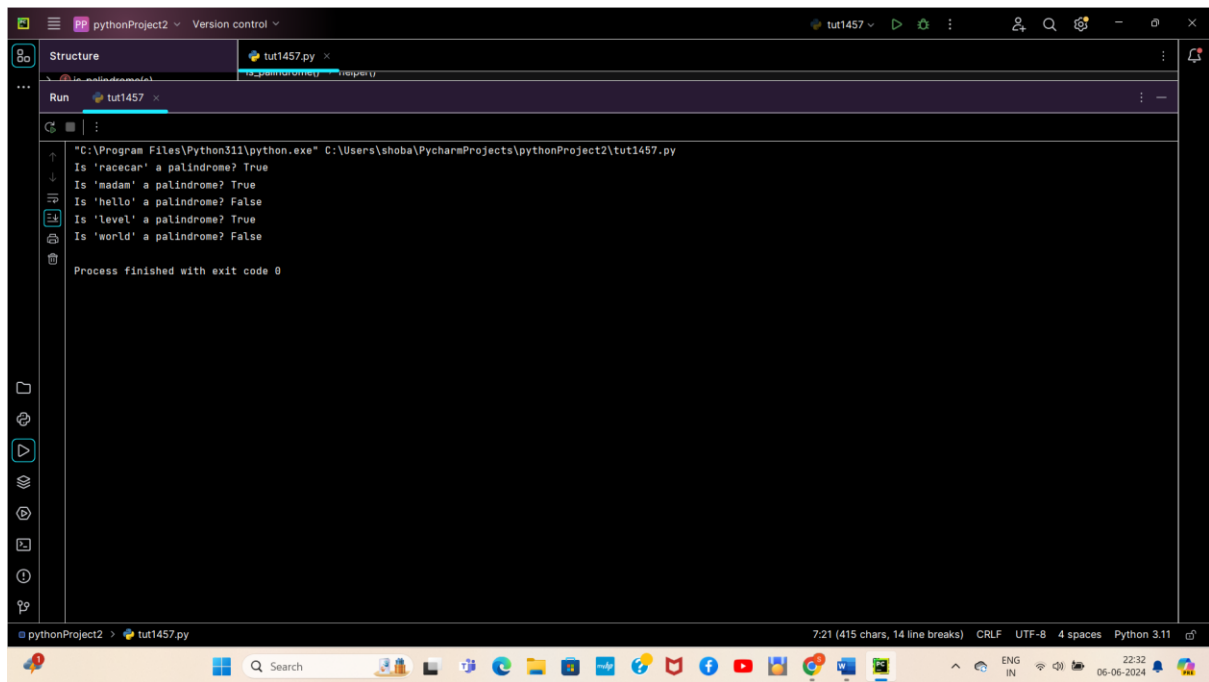
Program:

```
def is_palindrome(s):
    def helper(start, end):
        if start >= end:
            return True
        if s[start] != s[end]:
            return False
        return helper(start + 1, end - 1)

    return helper(0, len(s) - 1)

test_strings = ["racecar", "madam", "hello", "level", "world"]
for test_str in test_strings:
    result = is_palindrome(test_str)
    print(f"Is '{test_str}' a palindrome? {result}")
```

Output:



```
"C:\Program Files\Python311\python.exe" C:\Users\shoba\PycharmProjects\pythonProject2\tut1457.py
Is 'racecar' a palindrome? True
Is 'madam' a palindrome? True
Is 'hello' a palindrome? False
Is 'level' a palindrome? True
Is 'world' a palindrome? False

Process finished with exit code 0
```

Time Complexity:  $O(n)$