

VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502354

VIT V_Structured and OOP_Lab 5_COD_Medium_Constructors Destructors

Attempt : 1

Total Mark : 10

Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Rathi wants to determine whether a given string is a palindrome or not. To assist her, you are tasked with creating a program that checks if a string is a palindrome.

You are required to define a PalindromeChecker class with the following properties and methods:

A constructor that initializes the object with a string. A method named isPalindrome that checks if the input string is a palindrome. A destructor that displays a message when an object is destroyed.

Answer

```

#include <iostream>
#include <string>
#include <algorithm>
using namespace std;

class PalindromeChecker {
private:
    string str;

public:
    PalindromeChecker(string inputStr) : str(inputStr) {}

    bool IsPalindrome() {
        string reversedStr = str;
        reverse(reversedStr.begin(), reversedStr.end());
        return str == reversedStr;
    }

    ~PalindromeChecker() {
        cout << "Destructor called. Object destroyed." << endl;
    }
};

int main() {
    string inputStr;
    getline(std::cin, inputStr);

    PalindromeChecker checker(inputStr);

    if (checker.IsPalindrome()) {
        cout << "The input string is a palindrome." << endl;
    } else {
        cout << "The input string is not a palindrome." << endl;
    }

    return 0;
}

```

Status : Correct

Marks : 10/10