

**Assignment -5 : Longest Common Substring**

Raja Bharath Reddy Mahakala

Concordia University

Advanced Algorithms

Dr. Farah Kamw

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GitHub repository : <https://github.com/RajaBharathReddyM/cpp/blob/main/assignment5.cpp>

## Assignment -5 : Longest Common Substring

### Example 1:

```
assignment5.cpp U X
assignment5.cpp > main()
6  int longestCommonSubstring(string X, string Y) {
27      }
28  }
29  if (maxLength == 0) {
30      cout << "No Common Substring" << endl;
31  } else {
32      cout << "Longest Common Substring: " << X.substr(endIndex - maxLength, maxLength) << endl;
33  }
34
35  return maxLength;
36  }
37
38  int main() {
39      string X, Y;
40
41      // Take user input for the two strings
42      cout << "Enter the first string: ";
43      cin >> X;
44      cout << "Enter the second string: ";
45      cin >> Y;

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

vireddy/Desktop/Bharath Assignments/"assignment5
Enter the first string: ABABA
Enter the second string: BABAB
Longest Common Substring: ABAB
Length of Longest Common Substring: 4
pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

### Example 2:

```
assignment5.cpp U X
assignment5.cpp > main()
6  int longestCommonSubstring(string X, string Y) {
27      }
28  }
29  if (maxLength == 0) {
30      cout << "No Common Substring" << endl;
31  } else {
32      cout << "Longest Common Substring: " << X.substr(endIndex - maxLength, maxLength) << endl;

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments % cd "/Users/pruthvireddy/Desktop/Bharath Assignments/" &&
vireddy/Desktop/Bharath Assignments/"assignment5
Enter the first string: ABABABABABABABA
Enter the second string: ABABAB
Longest Common Substring: ABABAB
Length of Longest Common Substring: 6
pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

**1) How long did you spend on this assignment ?**

I spent approximately 4 hours on this assignment

**2) Based on your effort, What letter grade would you say you earned ?**

Based on my effort, I would give myself a grade A.

**3) Based on your solution, what letter grade would you say you earned ?**

I would rate it as an A. The program works perfectly to find the shortest path between nodes as expected.

**4) Provide a summary of what doesn't work in your solution, along with an explanation of how you attempted to solve the problem and where you feel you struggled ?**

I had difficulty optimizing the loop structure. I experimented with different approaches to make it more efficient.