


National University of Computer and Emerging Sciences



Programming Fundamentals CS118 Laboratory Manual

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Section	BDS-1A
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National University of Computer and Emerging Sciences

	Lab No 11		
	Course Name	Programming Fundamentals	Course Code CS188
	Program	BS(DS)	Semester Fall 2021
	Duration	3 hours	Total Points 40+60
	Lab Date	24-Dec-2021	Weight 3%
	Section	BDS-1A	Page(s) 5

Topics Covered: Revision + Strings

Use Visual Studio to write code for the following questions.

Submission Guidelines:

1. Save all .cpp files according to the following naming convention i.e.,
{Section}_{RollNo}_{ProblemNo}.cpp
For Problem#01: CX_21L-XXXX_P01.cpp For Problem#02: CX_21L-XXXX_P02.cpp
2. Now create a new folder according to the following naming convention i.e.,
{Section}_{ROLLNO}_{LABNO}
For students of C1: C1_21L-XXXX_L11 For students of C2: C2_21L-XXXX_L11
3. Move all of your .cpp files to this newly created directory and compress it into a single .zip file.
4. Submit this compressed file on Google Classroom.

Even one-minute late submission would be considered as late

*****Enjoy Coding □*****

Problem#01

Marks (40)

Write a function named ***isPalindrome*** which takes a string named as ***text***. Your function should then check whether the string is a Palindrome or not. If yes, return true, else return false.

A palindrome is a text which remains the same if read straight or backward.

RACECAR is a palindrome because its spelling remains the same.

**RACECAR**

Sample Cases

text  "RACECAR"

Output:

It is a palindrome

text  "MADAM"

Output:

It is a palindrome

text  "WITCHER"

Output:

It is not a palindrome

Problem#02

Marks (60)


Write a C++ program that has two variables of type string i.e., **text** and **word**. Your program should check whether the word exists in the text provided or not. If it does, you need to display the starting index at which the word exists in that text.


Sample Cases

Text  "I am a batman"

Word  "batman"

Output:
batman was found at index 5

Text  "Enjoy your winter vacation"

Word  "winter"

Output:
winter was found at index 11

Text  "Everyone will secure a high grade"

Word  "F grade"

Output:
F grade was not found

Problem#03 (2D ARRAY)

A local zoo wants to keep track of how many pounds of food each of its three monkeys eats

Each day during a typical week. Write a program that stores this information in a two-Dimensional 3x5 array, where each row represents a different monkey and each column

Represents a different day of the week. The program should first have the user input the data for each monkey. Then it should create a report that includes the following information:

- Average amount of food eaten per day by the whole family of monkeys.**
- The least amount of food eaten during the week by any one monkey.**
- The greatest amount of food eaten during the week by any one monkey.**

Input Validation: Do not accept negative numbers for pounds of food eaten.