COMSATS University Islamabad, Lahore Campus

☐Sessional-1 ☐Sessional-II ■Terminal Examination – Spring 2021

Course Title:	Introduction to Computer Programming / Programming Fundamentals-Lab				Course Code:	CSC103, CSC141	
Course Instructor/s:	Muhammad Nasir, Zaheer A. Gondal				Program Name:	BCE, BSM	
Semester:	2nd	Batch:		Section:	A, B		
Time Allowed:	**02hr 30 min + 15 min (for upload)**				**Maximum Marks:**	**50**	
Student's Name:					Reg. No.		

Important Instructions / Guidelines:

- Only 'C' programming language is considered wherever applicable.

You will be evaluated on the following basis:

A.	Proper indentation	**[05 Marks]**
B.	Proper Menu selection (Condition on Execution of Q1 or Q2)	**[05 Marks]**
C.	Question#1	**[20 Marks]**
D.	Question#2	**[15 Marks]**
E.	Program Run Properly	**[05 Marks]**

Write a program that execute Question#1 if user press A and execute Question#2 if user press B.

Question No 1:

Consider the attributes of **Products** (Product_ID, Product_Name, Quantity, Price, Product_Type).
Note: You can enter following Products Type: Bakery, Grocery, and Electronics
Write a program that offers the following Manu list:
Press 1 to Add New Product
Press 2 to Update Product
Press 3 to Display Product
Press 4 to Exit
Create three functions: Add_Product, Change_Product and Display_Product. The functionality of these functions should be as follow:

Add_Product: This function will take the Product details from the Main function and write the Product details on a file **Product**. If the Product ID is already exists which you entered then it should display the error message.

Change_Product: This function will update the Product_Name of given Product on Product.txt file. It will take Product ID from Main function and update the Product_Name.

Display_Product: This function will read all the products data from Product.txt file and display the Products, which have the price between 500 to 1500.

Your program should work as following:

Press 1 to Add New Product
Press 2 to Update Product
Press 3 to Display Product
Press 4 to Exit
1
Enter Product ID, Product Name, Quantity, Price, Product Type?
4001
Cake
10

700
Bakery

Record is Successfully Saved…..

Press 1 to Add New Product
Press 2 to Update Product
Press 3 to Display Product
Press 4 to Exit
2
Enter Product ID to Update Product Type: 4001
Please Enter the Product Name: Sweets

Product Name is successfully updated to Sweets …

Press 1 to Add New Product
Press 2 to Update Product
Press 3 to Display Product
Press 4 to Exit
3
Product ID: 4001
Product Name: Sweets
Quantity: 10
Price: 700
Product Type: Bakery

Question 2: Write down a function called **getPolarity()**, which receives a 1D array of size 10 as an argument. The function converts all positive values in the array to +1 and all negative values in the function to -1. However, this change should not be made into parameter array, and it should remain unchanged. Rather, a new array should be created and returned from the function containing the above changes to original array (**Hint**: Pointers). Note that the parameter array elements with 0 value will remain unchanged, i.e., they will still have the 0 value in the output array. Finally Display the values of both in parallel way. Your program should work as follows:

Enter value 0 of 9: 15
Enter value 1 of 9: 89
Enter value 2 of 9: -12
Enter value 3 of 9: 56
Enter value 4 of 9: -46
Enter value 5 of 9: 0
Enter value 6 of 9: -102
Enter value 7 of 9: 0
Enter value 8 of 9: 77
Enter value 9 of 9: -5

The Data Analysis

15	1
89	1
-12	-1
56	1
-46	-1
0	0

-102 -1
0 0
77 1
-5 -1