Course Code: CL 118	Course Name: Programing fundamentals Lab
Instructor Name / Names: Safia Baloch	
Student Roll No:	Section:

Instructions:

- Don't return the question paper in the end.
- Read the question completely before answering it.

Time: 220 minutes.   **Max Marks:**

Before Attempting this paper, make a clear choice for yourself.

You have choice to select only ONE Part of the exam:
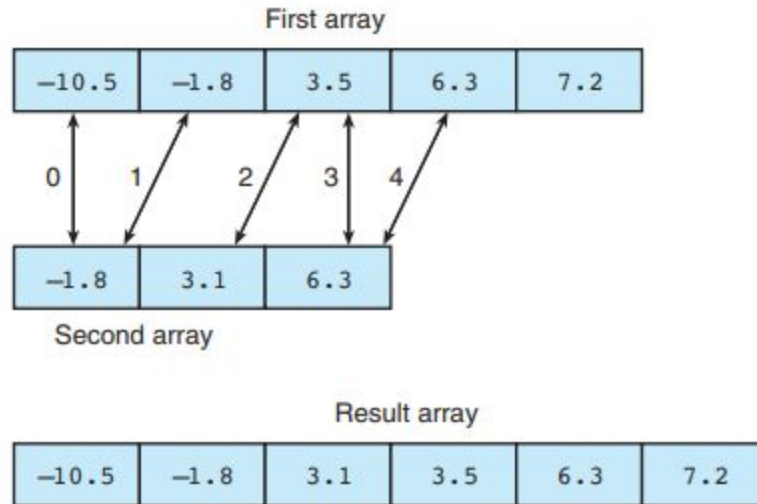
Part A: OR Part B

PART A:

1. 1D ARRAY TO POINTER

Write a program containing a function use_array_to_pointer that will merge the contents of two sorted (ascending order) arrays of type double values, storing the result in an array output parameter (still in ascending order).

-> The function should not assume that both its input parameter arrays are the same length and

-> should check that one array does not contain two copies of the same value.

-> The result array should also contain no duplicate values. Example:

First array

| -10.5 | -1.8 | 3.5 | 6.3 | 7.2 |

Second array

| -1.8 | 3.1 | 6.3 |

Result array

| -10.5 | -1.8 | 3.1 | 3.5 | 6.3 | 7.2 |

Test your function with cases in which:
(1) The first array is shorter than array2 in length
(2) The second array shorter than array1 in length
(3) The two arrays are equal in length
Remember that the arrays input to this function must already be sorted

- In the end take the screenshot of your final output and paste it into the folder. Don't' crop the picture

2. Filing , Arrays, Structures, Function:

Sara has won a lottery of $2000, now she thinks to set her small grocery store with the name Mommysavers.

You can consider her business in two parts to program it easily: Purchasing to fill stores, selling to earn profit, but in this part you will implement only purchasing of her.

How she is going to start her business is describe below:

"**Purchasing**"

1. The sheet provided has 4 different stores price lists (Means she needs 4 different separate files). She is going to keep only these items in her store. She needs to purchase all items quantity according to the budget ($2000). Means few things might be purchased in less and some more in quantity. (5)

2. She will purchase each item from one of the stores in the list with minimum price. For example Sara will purchase milk from ALDI because of least price $2.92. (5)

3. She sets a list of price which includes each item price by averaging from all prices given in the 4 lists, for example:The price of Milk in Sara store will be

(2.92+3.89+3.68+3.89)/4 = 3.59 (5)

4. Set a list against each item that how much purchase saving she will be doing when she sells the item. For example : (milk selling price- milk purchasing price): **3.59-2.92=0.675** saving on milk. (5)

5. She has five family members with names {Khalida, Nadia, Alisher, Murad, Raheem}. They are the first customer in her store with a budget **{$300,$450, $500,$200,$800}** respectively. Their buying must be according to their budget allocated. (5)

6. Display All the information with menu items available with the average calculated price,

7. Display list of profit against each item for Sara

OR

PART B:

Filing , Arrays, Structures, Function:

Sara has won a lottery of $2000, now she thinks to set her small grocery store with the name Mommysavers.

You can consider her business in two parts to program it easily: Purchasing to fill store, selling to earn profit

How she is going to start her business is describe below:

"**Purchasing**"

01. The provided sheet has 4 different stores price lists (Means she needs 4 different separate files). She is going to keep only these items in her store. She needs to purchase all items quantity according to the budget ($2000). Means few things might be purchased in less and some more in quantity. (5)

02. She will purchase each item from one of the stores in the list with the minimum price. For example Sara will purchase milk from ALDI because of least price $2.92. (5)

03. She sets a list of price which includes each item price by averaging from all prices given in the 4 lists, for example:The price of Milk in Sara store will be **(2.92+3.89+3.68+3.89)/4 = 3.59** (5)

04. Set a list against each item that how much purchase saving she will be doing when she sells the item. For example : (milk selling price- milk purchasing price): **3.59-2.92=0.675** saving on milk. (5)

05. She has five family members with names {Khalida, Nadia, Alisher, Murad, Raheem}. They are the first customer in her store with budget **{$300,$450, $500,$200,$800}** respectively. Their buying must be according to their budget allocated. (5)

"**Selling**"

06. When ever she sells any item, the process took place in these sequence of functions:
    a. Order receiving: (2)
    b. Checking availability of the items in store (5)
    c. Make customer bill with 7% discount on total bill if total exceeds $200 else 3% of the discount (3)
    d. Update the store with left items after each purchase: (5)
    e. Ask another purchase:if yes, then continue with previous status of store, if no, then exit the program (5)
    f. when exiting ,Sara program must displays, (5)
        i.   Her profit
        ii.   Number of items sold with quantity
        iii. Number of items left in store with quantity
        iv.   Summary of all first five members purchased goods name only (Not bill).