ENT 189 COMPUTER PROGRAMMING

LAB-3 FUNCTIONS, ARRAYS AND POINTERS

Lecturer : Mdm. Humairah binti Mansor
Teaching Engineer : Mdm Sharifah Nurul Husna binti Syed Hanapi
Technician : Mdm. Siti Khalijah Binti Hasan @ Yusuf

Name : _____

Matric Number : _____

Program : Mechatronic Engineering

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OBJECTIVE

At the end of this lab, students should reach the below objective:

Able to develop simple programs related to functions, arrays and pointers.

TASK 1

Develop a user defined function named ‘input_sides’ that obtains the three sides of a triangle from the user. In addition, develop two user defined functions named ‘calc_perimeter’ and ‘calc_area’, respectively, to compute the perimeter and the area of the triangle. Call these functions suitably from your main function to obtain the three sides of the triangle and to compute its perimeter and area.

TASK 2

The temperature (in °C) at Pauh Putra Campus for ten consecutive days is shown below:

29 31 30 30 26 28 31 34 35 32

a) Write a user defined function in C to read the above data into an integer type array. Name the function as 'read_temp'.
b) Write a user defined function named 'display_temp' that will display the integer data array on the monitor.
c) Develop a function named 'calc_mean' that will take an integer array, compute and return the mean value of the data array.
d) Incorporate the above functions into a main function and display the mean value.

TASK 3

Write a program in C using user developed functions to compute the product of two matrices. Test your program with the following data:

$$A = \begin{bmatrix} 5 & 11 & 3 \\ 2 & 7 & 9 \\ 8 & 1 & 4 \end{bmatrix} \qquad B = \begin{bmatrix} 13 & 2 & 6 \\ 4 & 9 & 1 \\ 3 & 8 & 7 \end{bmatrix}$$