

# Programming Fundamentals LAB – BSEF19

(Both Morning and Afternoon)

## Lab 14 –20-05-2020

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### Task 01 (20)

For each of the following, write a single statement that performs the single task. Initially, define two integer variables val1 and val2. Initialize the val1 to 2300.

- Print addresses of both integer variables.
- Define a pointer myPointer to an object of type integer.
- Print the size of pointer variable in bytes.
- Assign the address of variable val1 to pointer.
- Print the value of the object pointed to by myPointer.
- Assign the value of the object pointed to by myPointer to variable val2.
- Print the value of val2.
- Print the address stored in myPointer
- Indirectly print the value of myPointer, pointed to.
- Store NULL in myPointer and indirectly print the value of myPointer, pointed to.

### Task 02 (20)

Write a program that dynamically allocates an array large enough to hold a user defined number of test scores. Once all the scores are entered, the array should be passed to a function that sorts them in ascending order. Another function should be called that calculates the average score. The program should display the sorted list of scores and averages with appropriate headings. Use pointer notation rather than array notation whenever possible. [You are allowed to download and use sorting code from the internet]

### Task 03 (20)

The statement `double *v[25];` will create an array of 25 pointer to double data type. Using loop(s), allocate memory to each pointer equal to its `index + 1`. Again, using loop(s) assign random int values (between 2 to 9) to each location of assigned arrays. Note: the setup may be taken as a 2D triangular array. Print the values in form of triangle. Deallocate the dynamically allocated memory.

# Thanks, for your patience