Programming Fundamentals LAB – BSDSF24

(Both Morning and Afternoon)

Lab 16 – 10-01-2025

---

use notepad++ and developer command prompt for the following tasks (10 mark each)

Take home TASKS (20 mark each)

1. 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.

2. Write a function named **accumulate** that accepts an array of ints along with its size as parameters. The arrays is assumed to have only +ve values in it. The functions sum up all the values in the array and return their sum. **Then** test the function in all scenarios by calling it from main with various data sets.

   Make the function named **accumulate** of the Task 03, ***a template function***. Later test the function from main with various data sets of following data types, one by one.

   `double, float, int, char, bool`

3. Create a struct *Date* with three integer components for day, month and year. Later, write a function named *alphaDate* that accept a Date type parameter and return a string like one of the following examples.

   June 10, 1997
   March 3, 2016
   August 31, 2009

The function must *throw* string values as follows, if day, or month are invalid in the date type parameter.

Days are invalid for the month of ######
Month value can be within 1 to 12

4. Write a main function to create some date variables and call the above function for them, without try and catches. Then, write a main function to create some date variables and call the above function for them, with appropriate try and catches.

-- End of Lab –