Programming Fundamentals LAB – BSDSF24

(Both Morning and Afternoon)

Lab 04 – 11-10-2024

Task 01 (1 marks for each)

this task is repeated here for the practice, repeating something again and again is practice and practice make a man perfect

1. Turn on a LAB computer or your LAPTOP and Login into it.
2. Enter Command Line Interface (CLI), the BLACK windows and observe the prompt and a blinking cursor
3. Type D: and press enter, and observe/note WHAT appears on screen, WHERE on the screen. What is command prompt and where it is now, it should be **D:\>**
4. Type md pflab04 and press enter, and observe/note WHAT appears on screen, WHERE on the screen. Observe the command prompt
5. Type cd pflab04 and press enter, and observe/note WHAT appears on screen, WHERE on the screen. Observe the command prompt it should be **D:\pflab04>**
6. Type cl or CL and press enter, and observe/note WHAT appears on screen, WHERE on the screen. If cl is not recognized, it means the computer is not configured properly
7. In ***search*** type **Developer Command Prompt** and observe/note WHAT appears on screen
8. Repeat sub tasks 4 and 6 to get command prompt as D:\pflab04>
9. In the command prompt window, type start notepad++ function.cpp and press enter to start notepad++ application creating a new file average.cpp, if app ask you for creation of a new file, respond yes
10. Copy the code in the provided source code files and save the file. Compile, Run and Test the program. Leave the command window open.

use notepad++ and developer command prompt for the following task

Task 02 (10 marks each)

1. Code a function that takes three parameters, and return Waoo as string if absolute difference of first and second is more than absolute value of the third, otherwise return Ohhh as string . Later create/edit, compile and test the program using above mentioned function

2. Code a function to compute and return the angle in radians with angle in degrees as the only parameter. Later create/edit, compile and test the program using above mentioned function.

3. Write a program (not necessary to make several functions here) to output the value to the expression given below for angles in degree: in range 0, 15, 30, 45, 60, 75, 90, 180, and 270, one per line. Note: you may use the function created in task 2-2.

$$\sin^2 \theta + \cos^2 \theta$$

4. Using a while loop, repeat the last task for following angles in radian: 0, 0.01, 0.02, 0.03, 0.04, . . ., 3.14.

5. Code a function that takes a parameter as int and returns true if parameter is a perfect square. Otherwise, it returns false. Later create/edit, compile and test the program using above mentioned function.

Task 03 (20 marks each)

1. Create a program that output factors of a natural number. The natural number should be taken from the user. Factor of a number is a number that completely divides it. Also, at the end output the sum of all the factors.

2. Create a function named isprime as discussed in a class session. Using this function in main, output all the prime numbers which are less than 10000.

```
bool isprime(int n)
{
	bool r = true;
	int i = 2;
	while (i < n)
	{
		if (n % i == 0)
		{
			r = false;
		}
		i = i + 1;
	}
	return r;
}
```

-- End of Lab --