# Week 5 Lab Exercise

## Lab Instructions

During the lab you should be doing the following things:

1. You need to open Eclipse IDE on the lab machines or any other IDE for C on your own laptops.
2. Read the following tasks carefully and start implementing them.
3. Implement all tasks in one **.c file** inside of the **main** function, separated with the following block of code:

```
printf("========================================\n");
printf("==                TASK 1:               ==\n");
printf("========================================\n");
```

4. During the lab you are allowed to raise your hand and ask for the help from one of our TAs and Instructors if they are available.
5. You are NOT allowed to work on any other things during the lab, except doing the lab exercises.
6. You can discuss the tasks with the classmates and friends during the lab, but you are NOT allowed to do the tasks instead of each other.
7. Academic Misconduct == Plagiarism == copying work from each other is NOT allowed.
8. **During the lab you should finish all the required tasks and submit to Moodle before the deadline to get the grades.**
9. You should be working on the following tasks during **1 hour 15 minutes**.
10. **The deadline for submission is Friday, September 14, at 23:59. Please do not wait until the last minute!**
11. **During the work please make sure that you save your work each time.**
12. **WARNING: once you logged out from the lab machine, your work will be deleted. So please please save your work somewhere externally (any cloud drives or flash drives).**
13. **The maximum point is 1. If you are present, working on given programming tasks and submit the .c file to Moodle you get your 1 point. Otherwise it is zero.**

## Lab Exercises

1. **Convert to Capital Char.** Write a program in C that first prompt the user to enter in some words, and outputs the same words in the same order with the same spacing between them but converted the first character of the word to the capital.

   *Input Format:*

```
Input some words: hello everyone    My name is Michael
```

*Output Format:*

```
Hello Everyone    My Name Is Michael
```

2. **Letter, Digit or Not.** Write a program in C to check whether a character is a digit or letter or not. You should also write in the loop until the 'q' character will be provided.

   *Input-Output Format:*

```
Please provide one char: h
The entered character is a letter.
Please provide one char: !
The entered character is not a letter neither a digit.
Please provide one char: 6
The entered character is a digit.
Please provide one char: q
Buy, thanks for using.
```

3. **Split to lines.** Write a program in C to split string by space into words.

   *Input Format:*

```
Please provide a sentence: This is a test sentence
```

   *Output Format:*

```
This
is
a
test
sentence
```

4. **Split to lines.** Write a program in C that accepts two strings, compares them and outputs the result to the console.

   *Input Format:*

```
Please provide two strings: Hello Hell
```

   *Output Format:*

```
These two words are not equal.
```

   **OR**

*Input Format:*

```
Please provide two strings: argyle argyl
```

*Output Format:*

```
These two words are not equal.
```

**OR**

*Input Format:*

```
Please provide two strings: Kate Kate
```

*Output Format:*

```
These two words are equal.
```

5. **Read & Write from/to files.** Write a program in C that reads the data from the file which is also provided separately from this PDF file on Moodle, called TestFile.txt. Please download and put it to the appropriate directory in your project. Your program should read only the numbers from the given file and output the sum of them to the console and to the new created text file called as sum.txt.

   *Output Format:*

   ```
   The sum of numbers is: 2671
   ```

   Sum.txt file

   ```
   The sum of numbers is: 2671
   ```

## Grading and Submission

To receive credit for this lab exercise, you should present in the lab and work of the given lab exercises. You also will have some extra hours after the lab session to finish and submit your work as a **.c file** to **Moodle**. Do not wait until the last minute!

The maximum grade for this lab is **1 points**. To get the maximum, you should be present in the lab and work on the given tasks, you also should be able to submit your work to the moodle despite how well it is written.

In case if you didn't finish the work or the code doesn't work, you should still be able to submit the work before the **deadline**.

Please do not **copy** the work from each other.

# USEFUL TIPS

- **FORMAT the code**: to format your code in Eclipse you should be able to use the following commands: Right-click on your code, choose **`Source`**, then from the dropped menu choose **`Format`**.
- **Running process on the BACKGROUND (Kill your all running process to get the right output):** On the Console window you should be able to see the RED button to stop the running process, then you should be able to close by pressing on the Cross button.