

CENG204 - Computer Organization

Homework 2

Deadline: 01/04/2024 23:59 (Late Submissions are not allowed)

This homework is **individual**. In this homework, you are going to find two proper algorithm questions via Internet such as: Hackerrank, LeetCode, Coderbyte, Codewars etc.

- Problem 1 needs to be solved with using For loop and if else statements.
- Problem 2 needs to be solved with using while loop and if else statements.
- Proper problem selection is also important and has a grading.

You are going to solve the questions first with using for loop for first question and while loop for second question. Then you are going to convert for loop solution into **goto** version for Q1, and you are going to convert while loop solution into 2 **goto** versions (**jump to middle** approach and **do-while** approach which we covered in the lecture.)

You are going to have a **main** function that you show the results of these functions giving the same results for the same inputs.

```
- Q1_for_solution() {  
-     // for loop solution for Q1 that you find.  
- }  
- Q1_for_to_goto_solution() {  
-     // goto version for the for loop solution.  
- }  
- Q2_while_solution() {  
-     // while loop solution for Q2 that you find.  
- }  
- Q2_while_to_jm_goto_solution() {  
-     // Jump to Middle approach goto version of Q2.  
- }  
- Q2_while_to_dw_goto_solution() {  
-     // Do while approach goto version of Q2.  
- }
```

- All solutions must be in a single C file `homework2.c` file but don't forget to write your name, surname and student number as a comment to the beginning of your file.
- You should also convert this file into assembly file `homework2.s` file (in x86-64 Intel processor machine with Linux) with using `gcc`. You can find a link which shows how to install Linux as a subsystem for windows.
 - o <https://youtu.be/av0UQy6g2FA?si=5Cb31acPsoIhrqMI>
- Submit `homework2.c` and `homework2.s` files in a **zip** folder.

Penalty for cheating:

- If cheating is detected **once**, students will lose half of their all homeworks grades (Hw1, Hw2, Hw3, Hw4 and Hw5).
- If cheating is detected **twice**, students **will lose the grades of all homeworks**.
- If cheating is detected more than two times, students will get FF and failed from the course.
- Detection of cheating **will not be announced** until at the end of the semester.

What is **cheating**?

- Sharing code: by copying, retyping, looking at, or supplying a file
- Describing: verbal description of code from one person to another.
- Coaching: helping your friend to write a homework, line by line
- Searching the Web for solutions
- Copying code from a previous course or online solution
- You are only allowed to use code we supply

What is **NOT cheating**?

- Explaining how to use systems or tools
- Helping others with high-level design issues

You can ask your questions via yusufsevkigunaydin@aybu.edu.tr with the mail subject "About CENG204 Hw2".