

**Recep Tayyip Erdogan University**

**Faculty of Engineering and Architecture**

**Computer Engineering**

CE103- Algorithms and Programming I

**Homework-1 (Week-3)**

**Fall Semester, 2020-2021**

| Instructor | Asst. Prof. Dr. Uğur CORUH |
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| Google Classroom Code | **ouw44uk** |
| Publish Date | **28.10.2020** |
| Due Date | **06.11.2020 17:00** |

**Complete the following homework requirements, prepare them in the format given in the link below until the deadline and time, and upload them to the related assignment in the classroom.**

<https://drive.google.com/file/d/1yqSXZZ3346iIqotb_e_yzaryfxEXE0fR/view?usp=sharing>

**Grades:**

| Problem-1 | 20 points |
| --- | --- |
| Problem-2 | 15 points |
| Problem-3 | 15 points |
| Problem-4 | 15 points |
| Problem-5 | 15 points |
| Problem-6 | 20 points |
| **Total** | **100** points |

*You will develop the following examples in C language. The examples with C ++ will not be accepted.*

NOTE: In the code, add the following information with printf. Put the description of each application in the problem part.

*int main(void)*

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*printf("Build Time: %s %s\n", \_\_DATE\_\_, \_\_TIME\_\_);*

*printf("Owner: Name Surname\n");*

*printf("Student ID: 11111111\n");*

*printf("Course: CE-103\n");*

*printf("Homework: 1\n");*

*printf("Problem: “Printing the Text Entered on the Screen in Reverse \n");*

*... your codes...*

*}*

**Problem-1**: *Printing the Text Entered on the Screen Reverse (20 points)*

When the application is opened, it waits for an input like "please enter the text:". After the entry is entered, "hello" is output as "olleh". Then it waits as "Do you want to enter a new entry (y / n)" y: yes n: no. When the y character is entered, it clears the screen and displays the text "please enter the text:" and waits for the content to be entered in the same way. Otherwise close application with “bye” message.

**Problem-2**: *Drawing a Triangle with the Star Character on the Screen (15 points)*

When the application opens, it creates the following figure on the screen using loops.

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**Problem-3**: *Fibonacci Sequence (15 points)*

Write the application that creates the fibonacci sequence as the number entered on the screen.

**Problem-4**: *Number Base Conversions (15 points)*

Write the code that writes the equivalents of all the numbers in the range of numbers on the screen in the binary, hexadecimal, octal system.

**Problem-5**: *Prime Factorization (15 points)*

Write the code that divides the number it takes as input from the screen into prime factors.

**Problem-6**: *strcat, strcmp and strcpy function (20 points)*

Write the standard functions strcat used to add strings of characters, strcmp used to compare strings and strcpy used to copy strings.