

EECS 10: Homework 2

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Due Monday, October 12 at 12:00pm

1 Part 1: Exercise 2.16, page 59 [10 points]

When you run your program, it should look like this:

```
Please enter two numbers.  
Number 1: 7  
The first number is 7.  
Number 2: 3  
The second number is 3.  
The sum is 10.  
The product is 21.  
The difference is 4.  
The quotient is 2.  
The remainder is 1.
```

The files that you should submit for this part of the assignment are:

- **numbers.c**: the source code file.
- **numbers.txt**: the brief text file to explain what the program does and why you chose your method of implementation (**no more than 5 sentences**).
- **numbers.script**: the typescript file to show that your program works with the numbers shown above, as well as with 21 and 63.

2 Part 2: Adding Timestamps [30 Points]

Write a C program that computes the sum of two timestamps. Your program should prompt for the hours, minutes, and seconds for 2 timestamp values, then display the results. In addition, display each timestamp after it has been entered. When you run your program, it should look like this:

```
Please enter two timestamp values h1, m1, s1, h2, m2, and s2.  
h1: 15  
m1: 21  
s1: 37  
Timestamp 1 is 15 hours, 21 minutes, and 37 seconds.  
h2: 31  
m2: 57  
s2: 27  
Timestamp 2 is 31 hours, 57 minutes, and 27 seconds.  
The sum is 47 hours, 19 minutes, and 4 seconds.
```

Summed values for minutes and seconds must carry over if greater than 59.

Hint: Convert and store each timestamp triple as seconds before the addition in order to properly handle carryover in your computation. After you obtain your sum, convert it back to a timestamp triple so that it can be displayed. You will need to use the * (multiplication), / (division), and % (modulo) operators.

The files that you should submit for this assignment are:

- **timestamp.c**: the source code file.
- **timestamp.txt**: the brief text file describing the design of your program, i.e. the steps required for the calculation.
- **timestamp.script**: the typescript file to show that your program works with the following 2 timestamps: 2 hour, 44 minutes, and 31 seconds, and 1 hours, 29 minutes, and 45 seconds.

3 Bonus [5 Points]

Extend Part 2 above to also handle days and weeks (in addition to hours, minutes, and seconds).

You can use the same files as in Part 2. To demonstrate your program extension in the script file, add 3 weeks and 2 days, and 2 week and 6 days to the above timestamps, respectively.

4 Submission

Submission for these files will be similar to last week's assignment. The only difference is that you need to create a directory called **hw2/**. Put all the files for assignment 2 in that directory and run the **/ecelib/bin/turnin** command to submit your homework.