# T.C.
# DOKUZ EYLUL UNIVERSTY

# FACULTY OF ENGINEERING

# DEPARTMENT OF COMPUTER ENGINEERING

# 2022 - 2023
# FALL SEMESTER

# CME 3205
# OPERATING SYSTEMS

# ASSIGNMENT 2
# TIME SERVER

# DUE DATE
# 23:55 – 22.12.2022

In this assignment, you are asked to create a simple time server that takes a time request from a client using “telnet” console command on a Linux machine. Similar to our lab classes on socket communication, you will create a server that takes date request from a client and send the correct date data that is requested.

To learn more about date formats, you should read the man pages of “date” console command that is available via console command “man date” or at the following website (https://man7.org/linux/man-pages/man1/date.1.html). Your server will basically receive date requests, use “date” command to get correct output and send this output to the client. Examples of this operation are given below (assume the current time and date was 13:45:56, Friday, 13.01.2023).

| **CLIENT’S DATE REQUEST** | **SERVER’S RESPONSE** |
|---|---|
| GET_TIME | 13:45:56 |
| GET_DATE | 13.01.2023 |
| GET_TIME_DATE | 13:45:56, 13.01.2023 |
| GET_TIME_ZONE | +03:00 |
| GET_DAY_OF_WEEK | Friday |
| CLOSE_SERVER | GOOD BYE |
| Any other input | INCORRECT REQUEST |

The basic function of your time server would be getting the inputs given above, using “date” command to generate correct output and returning the output to the client. For any other kind of input (including lowercase versions of above examples) just send “INCORRECT REQUEST” to the client without needing any further explanation.

Only one connection (one client) is enough for time server. You are not required to implement a multi user time server for this assignment. You are also required to use port “60000” for this communication. You should define this port as it is show in below and close it when you receive “CLOSE_SERVER” command from client before closing the program. This is especially important because if it is not closed, next program will not be able to use this port.

**`#define PORT_NUMBER 60000`**
The port number that will be used by your program.

While doing your assignment, only consider and use the topics and code examples covered in your lab sessions related to this assignment. Any other C language or Linux library that may help you on this assignment should not be used, without explicit and written permission by research assistants of this class. The only console command you should use is “date” command in Linux shell. Check out the examples or try it yourself to see how it works.

# UPLOAD REQUIREMENTS:

You are required to upload the C language code file you have written to the SAKAI. You should compile and test it to make sure it works before upload. You can use a IDE during development but your code must work correctly using console complication and execution commands (using “gcc” and “./”). If we cannot correctly compile and execute your code, your grade will be significantly reduced due to not being able to see results to evaluate. You do not need to upload a complied version of your code, just your C language code, because we cannot prove if it is a original compilation or not. For this reason, uploading a complied file is not necessary nor it is requested.

The file you are required to upload are given below with an explanation and an example. You are free to do this assignment as a group of two students or individually. If you want to form groups, do not forget to add your group info to the shared excel file. Please do not use empty spaces or Turkish language characters in your file name.

**For Groups:**
**GROUP_(GROUP_ID)_(STUDENT_NUMBER_1)_(STUDENT_NUMBER_1).c**
**Example: GROUP_1_2022510123_2022510124.c**
**(Source code you have written in C language)**

**For Individual Students:**
**(STUDENT_NUMBER)_(STUDENT_NAME)_(STUDENT_SURNAME).c**
**Example: 2022510123_fatih_dicle.c**
**(Source code you have written in C language)**

You can see the basic grading table of this assignment below.

| CRITERIA | GRADE |
|---|---|
| Correct naming of upload files | 10 |
| Correct English variable names and English comments | 20 |
| Correct code quality and readability | 20 |
| Using correct port number and closing it before exiting | 10 |
| Correct execution and date output to client | 40 |
| TOTAL GRADE | 100 |
| CHEATING OR ANY OTHER FORM OF PLAGIARISM | –∞ |

Late or no submissions will be graded zero. In a rare case of system or upload failure, send your code file to research assistants as an email. This does not guarantee that your code will be accepted or graded but it will be a record of your problem and your code.

If you have any questions or problems regarding this lab paper, you can ask about it in our lab sessions or in Sakai class forums.

However, please do not send emails because that would lead to asking the same questions over and over again.

# GOOD LUCK TO YOU ALL!