

## MIDTERM ASSIGNMENT

Subject : Classes, objects, encapsulation, inheritance, and polymorphism.

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Out Date: 05/03/2021 23:59:59

Due Date: 05/17/2021 23:59:59


## DECLARATION OF HONOR CODE<sup>1</sup>

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In the course of Introduction to Object Oriented Programming (CENG 1004), I take academic integrity very seriously and ask you to do as well. That's why, this page is dedicated to some clear statements that defines the policies of this assignment, and hence, will be in force. Before reading this assignment booklet, please first read the following rules to avoid any possible violation on academic integrity.

- This assignment must be done individually unless stated otherwise.
- You are encouraged to discuss with your classmates about the given assignments, but these discussions should be carried out in an abstract way. That is, you cannot copy code (in whole or in part) of someone else, cannot share your code (in whole or in part) with someone else either.
- The previous rule also holds for the material found on the web as everything on the web has been written by someone else.
- You must not look at solution sets or program code from other years.
- You cannot share or leave your code (in whole or in part) in publicly accessible areas.
- You have to be prepared to explain the idea behind the solution of this assignment you submit.
- Finally, you must make a copy of your solution of this assignment and keep it until the end of this semester.

*I have carefully read every of the statements regarding this assignment and also the related part of the official disciplinary regulations of Muğla Sıtkı Koçman University and the Council of Higher Education. By signing this document, I hereby declare that I shall abide by the rules of this assignment to prevent any violation on academic integrity.*

Signature .....  .....

<sup>1</sup>This page should be filled and signed by your handwriting. Make it a cover page of your report.



# Object Oriented Programming Midterm Assignment

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## 1 Role Of Each Class

### 1.1 User Class

The first class is User class. In this class there are features of users such as name, user id, school so on. Also there are methods which users can perform such as add friend and block a user. And there are some static variables such as current user, user id and find user in this class.

### 1.2 Command Class

The second class is Command class. This class contains the commands which program can perform. This is the class that reads the command.txt file and calls methods from User class to perform the action.

### 1.3 Post Class

Post class is another class which contains attributes of the posts such as post location and post name.

### 1.4 Picture And Video Classes

There are also Picture and Video classes. These classes are subclass of the Post class. Each class has their own attributes. For example, Video class has video duration and Picture class has picture size attribute.

### 1.5 My Social Book Class

And the last class is the MySocialBook class. This class contains the main method and the main method calls the User and Commands classes to start the program.

## **2 The Functionality of Each Method**

### **2.1 Read Method**

The first method in the User class is read method. This method reads the user.txt and creates an array list called user list which contains users as user object.

### **2.2 Find From Username Method**

Another method is find from username method. This method takes a username as parameter and searches for the user in the user list. If there is such user in the user list, it assigns this user object to the find user static variable. Otherwise it sets the value of find user as null and prints a message which says "There is no such user!". This method is used almost in every command check.

### **2.3 Sign In Method**

Next method is the sign in method. When a user wants to sign in, the program calls the find from username method to check if there is such user. If the user exists, it checks the users password. And if the password is correct it assigns find user's value to another static variable called "current user". Current user is the user that logged in and can perform any action. Also it assigns the login date to an attribute of current user called login date.

### **2.4 Add User Method**

Next method is the add user method. This method takes 5 parameters and creates a new user object and adds it to the user list. If the user provides less than 5 parameters, it prints a message which says "Please provide all the necessary information!".

### **2.5 Remove User Method**

Another method is the remove user method. First, a for loop searches for the given id. And if there is such user with the provided id, this user object is assigned to find user variable. And the remove user method removes the object that find user contains.

### **2.6 Update Profile Method**

Next method is the update profile method. The program first checks if all the information is provided or not. If all the necessary information is provided, then the program will call the update profile method. This method takes 4 parameters and changes the attributes of current user with the new attributes.

## **2.7 List Friends Method**

This method lists the name of each friend in the current user's friend list.

## **2.8 Show Posts Method**

The method first prints properties that all posts have in common. Later on the program checks whether this post also belongs to a subclass. If the post belongs to one of those sub classes, it will print their attributes accordingly.

## **2.9 Block User Method**

This method is used to add people to user's blocked or blocked friends lists. The program first checks if the provided username is a valid username. If there is such user then the program checks if this user is already friend of current user and if the user is already blocked. And puts the user to a list accordingly.

## **2.10 List Blocked Friends Method**

The method prints each user in the current user's blocked friend list. If there is no one in that list, it prints an error saying that there is no friends.

## **2.11 Unblock User Method**

First the program checks if there is such user with the provided user name. If the user exists, it sends user's name to unblock user method. The method checks the current user's blocked list and blocked friends list and removes if there is such user in them.

## **2.12 List Blocked Method**

Lists the blocked users list of current user. If there is no one in the list, it prints an error saying that "You don't have anyone in your blocked list!"

# **3 General Idea Regarding the Assignment**

At first, the assignment seemed so hard, everything was complicated and I didn't know where to start. I made a draft in my head and started to write. And when I set up all the classes writing methods was so easy.

# **4 The contribution of this Assignment on Me**

I wasn't confident with what I learned so far. I couldn't know what I can do or how I can use the things I've learned. Thanks to this assignment, I noticed my weaknesses and could improve them. Also I got a good idea what can be done with object oriented programming.

