

CENG 211

PROGRAMMING FUNDAMENTALS

HOMEWORK-6

Due Date: 03 January 2018, 23:55

You are required to implement **Customer Analysis Tool** in which customers of a product can be categorized as follows:

- Senior if (s)he is 60 or more years old,
- Adult if between 30 and 59
- Young if between 18 and 29.

Moreover, the following constraints should be satisfied:

1. A customer should be in age of between 18 and 79.
2. A customer's gender is represented with F for female and M for male.
3. A customer's name cannot be longer than 20 characters.

These constraints should be handled by using exceptions, called **IllegalArgumentException**.

Design and implement an **ADT for Customer class** where it is an abstract class. Moreover, design and implement an **Interface for CustomerListAnalytics class**, which consists of the following methods:

- numberOfFemaleCustomers,
- numberOfMaleCustomers,
- numberOfSeniorCustomers,
- numberOfAdultCustomers,
- numberOfYoungCustomers.

IMPORTANT NOTES:

- You should not change the given test cases.
- Make sure your code passes the given test cases.
- You will be evaluated according to these test cases and object oriented design.

SUBMISSION RULES:

- You should create your Java project as **ID1_ID2_HW6** and export as **ID1_ID2_HW6.zip**
- You should upload your zip file **ID1_ID2_HW6.zip** to the CMS.
- One of the group members is sufficient to upload homework to the CMS.
- You should add an author comment to the top of each class that you implement.