

Department of Computer Technology and Information Systems
CTIS221 – Object Oriented Programming
FALL 2019 - 2020
Lab Guide 15 - Week 11-1

OBJECTIVE: Exception + TextFiles + GUI

Instructor : Burcu LİMAN

Assistant : Burcu ALPER, Leyla SEZER

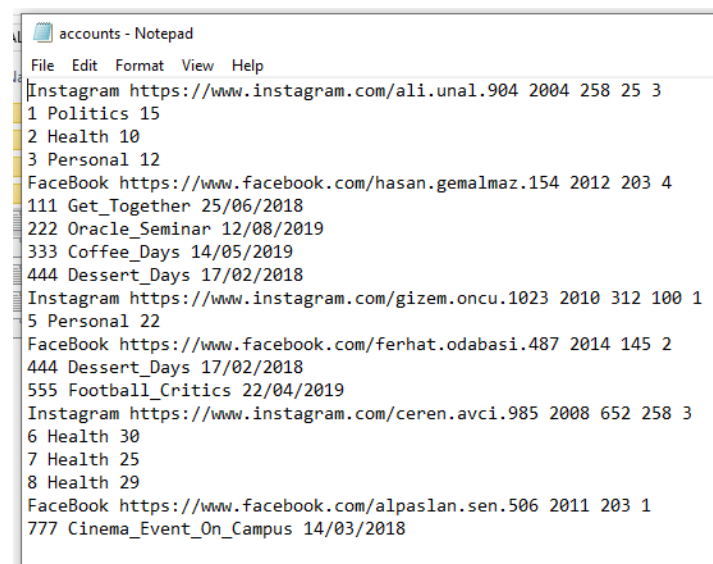
Write a Java program that reads account informations from a file named “accounts.txt” according to the type of the social media, program gets the related information of account holders then displays them on the screen. In part b, program creates a GUI for the related informations first gets the data from the file, then makes add and display operations according to the type of the account.

PART A: Implement your classes

Your program will get input from 1 text file with the following structures;

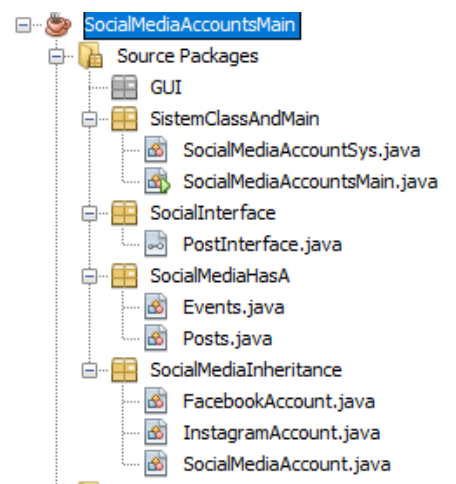
The **accounts.txt** file includes information about social media accounts as; account name, url, publishYear,

- If the account is **Instagram** account; get the number of follow, the number of follower, the number of posts,
 - According to the number of posts get the post id, post name and post image id.
- If the account is **Facebook** account; get the number of friends and the number of events,
 - According to the number of events get the event id, event name and event date.

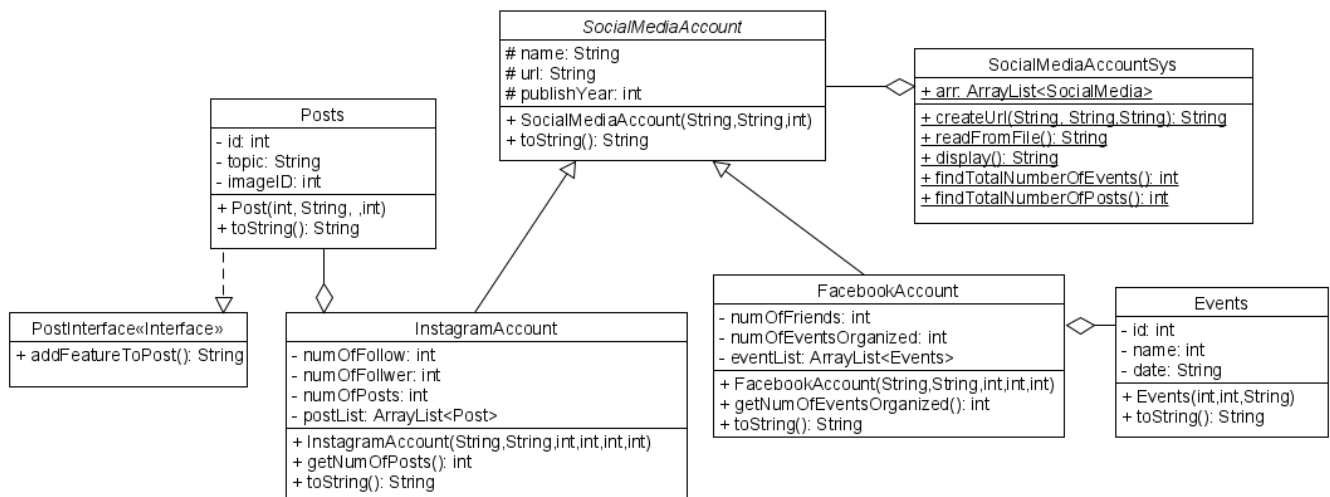


```
accounts - Notepad
File Edit Format View Help
Instagram https://www.instagram.com/ali.unal.904 2004 258 25 3
1 Politics 15
2 Health 10
3 Personal 12
FaceBook https://www.facebook.com/hasan.gemalmaz.154 2012 203 4
111 Get_Together 25/06/2018
222 Oracle_Seminar 12/08/2019
333 Coffee_Days 14/05/2019
444 Dessert_Days 17/02/2018
Instagram https://www.instagram.com/gizem.oncu.1023 2010 312 100 1
5 Personal 22
FaceBook https://www.facebook.com/ferhat.odabasi.487 2014 145 2
444 Dessert_Days 17/02/2018
555 Football_Critics 22/04/2019
Instagram https://www.instagram.com/ceren.avci.985 2008 652 258 3
6 Health 30
7 Health 25
8 Health 29
FaceBook https://www.facebook.com/alpaslan.sen.506 2011 203 1
777 Cinema_Event_On_Campus 14/03/2018
```

You are going to create each class in separate java files. Packages and the file names are as follows;



- ➔ Check the UML class diagram, implement your classes according to it, do not change visibility modifiers.
- ➔ Write only the necessary accessor and mutator methods inside the classes!! You may add methods other than the given ones, if you are going to use them!!
- ➔ toString() method for all the classes: will return the necessary data field information **related with** the implemented class.
- ➔ There is a HAS-A relationship between;
 - InstagramAccount - Posts
 - FacebookAccount - Events
 - SocialMediaAccount - SocialMediaAccountSys



Information of the abstract SocialMediaAccount class structure:

- Implement the given data members and methods according to the given uml-class diagram.

Information of the InstagramAccount class structure:

- Implement an ArrayList that stores the Post objects.
- Implement a **getNumOfPosts()** method to return the number of posts in **InstagramAccount** object.

Information of the FacebookAccount class structure:

- Implement an ArrayList that stores the Event objects.
- Implement a **getNumOfEvents()** method to return the number of events in **FacebookAccount** object.

Information of the PostInterface structure:

- Define the method **addFeatureToPost()** that returns a String.

Information of the Posts and Events class structure:

- Implement the Posts and Events classes according to the given UML- class diagram.

Information of the addFeatureToPost() method which is implemented from Posts class:

- Implement a **addFeatureToPost()** method that checks the topic and image id of the post and returns the added feature of the post as a string, according to given criteria;
 - If topic is **Politics** and the image id is between 1 -10, post feature is "Popular Post",
 - If topic is **Health** and the image id is between 10-20, post feature is "High Important Post".
 - If topic is **Personal** and the image id is between 20-30, post feature is "Personal Post".
 - Otherwise, all the post's feature is "Normal Post".

Information of the SocialMediaAccountSys class structure:

- Create the data member;
 - An ArrayList which stores **SocialMediaAccount** objects.
- Implement a **createUrl(...)** method, that gets name, surname and type of the account as a parameter then creates a url with the given rules; (we will use this method in the GUI part)

- If the account type is "instagram" puts the beginning part for the url "<https://www.instagram.com/>"
- If the account type is "facebook" puts the beginning part for the url "<https://www.facebook.com/>"
 - Then method puts name plus '.', surname plus '.', a random number between 100-1000.
For example; name is "ali" surname is "unal" and type is "instagram" the created url is;
<https://www.instagram.com/ali.unal.275>
- Implement a **readFromFile()** method, in which reads information from the text file and stores them in the ArrayList.
- Implement a **display()** method that displays the content of the array list.
- Implement a **findTotalNumberOfEvents()** method that finds and returns the total number of events.
- Implement a **findTotalNumberOfPosts()** method that finds and returns the total number of posts.

SocialMediaAccountMain:

- Reads the file content by invoking the **readFromFile()** method from the SocialMediaAccountSys class.
- Display the content of the array list which is getting from the file.
- Display the total number of events organized.
- Display the total number of posts published.

Output:

File is read successfully

InstagramAccount

Name=Instagram
Url=https://www.instagram.com/ali.unal.904
PublishYear=2004
Number Of Follow=258
Number Of Follower=25
Number Of Posts=3

Posts[
Id=1
Topic=Politics
Image ID=15
Added Feature is Normal Post,
Id=2
Topic=Health
Image ID=10
Added Feature is Normal Post,
Id=3
Topic=Personal
Image ID=12
Added Feature is Normal Post]

FacebookAccount

Name=FaceBook
Url=https://www.facebook.com/hasan.gemalmaz.154
PublishYear=2012
Number Of Friends=203
Number Of Events Organized=4

Event List=[
Id=111
Name=25/06/2018
Date=25/06/2018,
Id=222
Name=12/08/2019
Date=12/08/2019,
Id=333
Name=14/05/2019
Date=14/05/2019,
Id=444
Name=17/02/2018
Date=17/02/2018]

InstagramAccount
Name=Instagram
Url=https://www.instagram.com/gizem.oncu.1023
PublishYear=2010
Number Of Follow=312
Number Of Follower=100
Number Of Posts=1

Posts[
Id=5
Topic=Personal
Image ID=22
Added Feature is Personal Post]

FacebookAccount
Name=FaceBook
Url=https://www.facebook.com/ferhat.odabasi.487
PublishYear=2014
Number Of Friends=145
Number Of Events Organized=2

Event List=[
Id=444
Name=17/02/2018
Date=17/02/2018,
Id=555
Name=22/04/2019
Date=22/04/2019]

InstagramAccount
Name=Instagram
Url=https://www.instagram.com/ceren.avci.985
PublishYear=2008
Number Of Follow=652
Number Of Follower=258
Number Of Posts=3

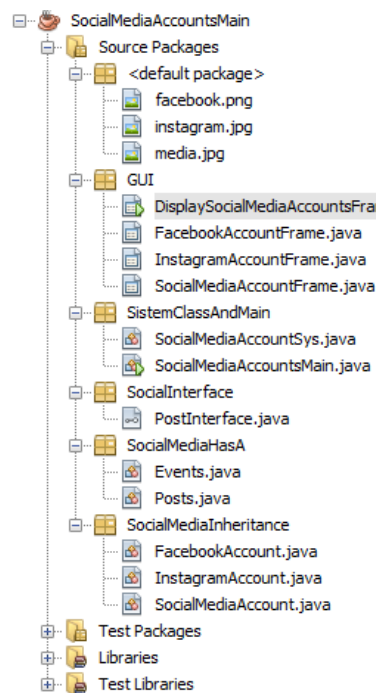
Posts[
Id=6
Topic=Health
Image ID=30
Added Feature is Normal Post,
Id=7
Topic=Health
Image ID=25
Added Feature is Normal Post,
Id=8
Topic=Health
Image ID=29
Added Feature is Normal Post]

FacebookAccount
Name=FaceBook
Url=https://www.facebook.com/alpaslan.sen.506
PublishYear=2011
Number Of Friends=203
Number Of Events Organized=1

Event List=[
Id=777
Name=14/03/2018
Date=14/03/2018]

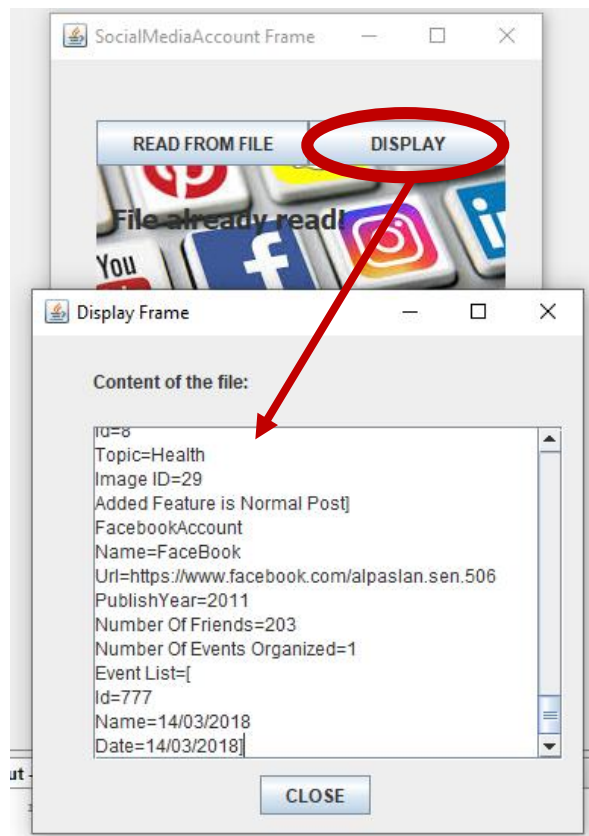
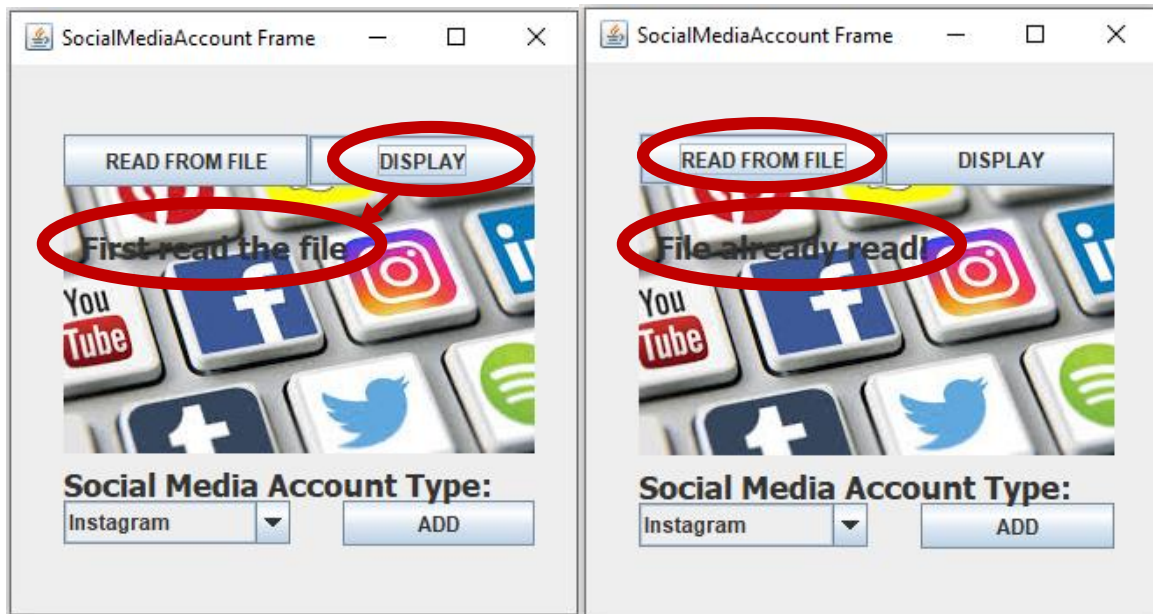
Total number of events organized is 7
Total number of posts published is 7

PART B: Implement your GUI



- 1) When program starts in main class;
 - a. The start-up frame should be created and sets its visibility to true;
 - i. There are 3 buttons, 1 combo box, 2 labels as shown below.
 - ii. Set the title to the "SocialMediaAccount Frame".
 - iii. When the user clicks on the "READ FROM FILE" button, file content will be read then the message shown below, inside a label.
 - iv. When the user clicks on the "DISPLAY" button, content of the file shown in a new frame "Display Frame" as in the screen shot.
 - v. When the user clicks on the "DISPLAY" button without reading the file in the first, programs gives a message shown below.
 - vi. If the user try to click the "READ FROM FILE" button, more than one time, program also gives a message as shown below.





- b. According to the selection of the user from the account types;
- i. If instagram is selected, "InstagramAccountFrame" will be shown,
 - ii. Otherwise; "FacebookAccountFrame" will be shown.
 - iii. Give the appropriate title to the frames.
 - iv. Set the given components as shown below.
 1. InstagramFrame; 11 labels, 7 text fields, 2 button, 1 label image.
 2. FacebookFrame; 10 labels, 6 text fields, 2 button, 1 label image.

- v. When the user enters the account information (set publish year to 2019), the URL created automatically by invoking `createUrl()` method inside the `SocialMediaAccountSys` class. (Assume that for each account there are one event/post)

The image shows two side-by-side windows for creating new accounts. The left window is titled "Instagram Account" and the right is "Facebook Account". Both windows have a "Create a new account:" section with the following fields: "Enter name:", "Enter surname:", "Number of Follow:" (Instagram) or "Number Of Friends:" (Facebook), "Number Of Follower:" (Instagram) or "Number Of Friends:" (Facebook), "Enter Post Information:" (Instagram) or "Enter Event Information:" (Facebook), "Post ID:" (Instagram) or "Event ID:" (Facebook), "Topic:" (Instagram) or "Name:" (Facebook), and "Image ID:". Below these fields are "ADD ACCOUNT" and "CLOSE" buttons.

The image shows two windows. The left window is titled "Instagram Account" and displays the following information: "Enter name: leyla", "Enter surname: sezer", "https://www.instagram.com/leyla.sezer.308" (circled in red), "Number of Follow: 652", "Number Of Follower: 325", "Enter Post Information: Post ID: 1", "Topic: Health", "Image ID: 25", "ADD ACCOUNT", and "CLOSE". The right window is titled "Display Frame" and displays the "Content of the file:" with the following text: "Name=14/03/2018", "Date=14/03/2018", "InstagramAccount", "Name=instagram", "Url=https://www.instagram.com/leyla.sezer.308", "PublishYear=2019", "Number Of Follow=652", "Number Of Follower=325", "Number Of Posts=1", "Posts[", "Id=1", "Topic=Health", "Image ID=25", "Added Feature is Normal Post]", and "CLOSE". Red circles and arrows highlight the URL in the left window and its corresponding entry in the right window.

- c. Add "CLOSE" button for each frame that dispose the frame when the user clicks on them.