INSY 4305 ADVANCED APPLICATION DEVELOPMENT

ASSINGMENT 2

100 points

1. INSTRUCTIONS

- **Due date is March 1, 11:59 pm. Late submissions will get 0 points. NO EXCUSE!**
- **You can only use the techniques from CHAPTER 4 and CHAPTER 5. Other techniques will not be accepted.**
- In this assignment, you are expected to upload **three** Java applications on Blackboard.
  - **SellingPrice.java**
  - **LargestSmallest.java**
  - **Sales.java**
- **You can only upload .java files. Please do not upload .zip files. Upload each .java files individually.**
- **NOTE: If you are using any IDE (Netbeans, Eclipse, etc.), please delete the statement, package Numbers; from your application. Otherwise, I will get a compilation error, and you will lose 5 pts. It is your responsibility.**
- Each question is **independent** of each other.
- **Do not forget to add comments to explain how your codes are working! Short comments are acceptable.**
- **Write your codes individually! Do not copy of any of them from someone else!**

2. GRADING POLICY

- **Case 1:**
  - For each question:
  - I will compile your .java files. **If any compilation error occurs, 5 pts will be deducted.**
  - After that, I will check your algorithms whether they are correct or not. For example; if it says find odd and even numbers. I will check whether it really finds both even and odd numbers. **This part will be evaluated based on your work.**

- Additionally, comments will be checked whether they clearly and briefly explain what you have done. **If comments are missing or not clear, enough, or brief 3 pts will be deducted.**

- **Case 2:**
  - For each question:
  - If there is not any compilation error:
    - I will try each case scenario stated in each question. For example; if it says find odd and even numbers. I will try both even and odd numbers. **This part will be evaluated based on your work.**
    - Additionally, comments will be checked whether they clearly and briefly explain what you have done. **If comments are missing or not clear, enough, or brief 3 pts will be deducted.**
- **Case 3:**
  - **If you do not upload a .java file, I will not evaluate your answer.**

- **Case 4:**
  - **If it is determined that you copy the codes from someone else, you will get 0 pt.**

QUESTIONS

Note: In each question, assume that the user enters correct inputs. You do not handle with exceptions.

1. Let's think that Company A produces mobile phones and you will write an application which calculates the product selling price for each year and product combined selling price concerning the supplied years by the user. (**35 pts**) **UPLOAD SellingPrice.java**

   Please check the following requirements:
   a. You will create a sentinel-controlled while loop. The flag value will be (-1).
   b. You will ask for a sales revenue (int), or you will request the user to terminate the application. Display the flag-value in your message.
   c. If the user supplies a sales revenue input, then you will ask for the total number of products (int) for the related year. Display the number of the year while asking inputs and printing results.
   d. Calculate the product selling prince (double) for the related year and display it. Display two digits after the decimal point.
   e. When the user terminates the application:

i. Calculate the total sales revenue (int) for all years and display it.
ii. Calculate the total number of products sold (int) for all years and display it.
iii. Calculate the combined selling price (double) and display it. Display two digits after the decimal point.
iv. Display the number of the year in your messages.

Sample output:

1. year product selling price is 1500/30 = 50.00

….

3-year total sales-revenue is 1500+1600+1500= 4600

3-year total number of products sold is 30+40+50=120

3-year combined selling price is 4600/120=38.33

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1. year sales revenue? (-1 to quit): 1500
1. year number of products sold?: 30
1. year product selling price is: 50,00

2. year sales revenue? (-1 to quit): 1600
2. year number of products sold?: 40
2. year product selling price is: 40,00

3. year sales revenue? (-1 to quit): 1500
3. year number of products sold?: 50
3. year product selling price is: 30,00

4. year sales revenue? (-1 to quit): -1
3-year total sales revenue is: 4600
3-year total number of products sold is: 120
3-year combined selling price is: 38,33
```

2. Write a Java application that inputs a series of 10 integers and determines and prints the largest and smallest integer. Use a counter-controlled while iteration. (**30 pts**) **UPLOAD LargestSmallest.java**

3. A bakery sells three types of muffins whose prices are as follows:
   1- blueberry muffin, $2.98
   2- chocolate chip muffin, $4.50 and
   3- banana muffin, $9.98.

   You will write an application which calculates the total retail value of the sold muffins.

   Please check the following requirements:
   - Create a sentinel-controlled while loop. The flag value will be 0. Display flag value in your messages.
   - Display the menu and ask for the muffin number (int) (1 for blueberry one, 2 for chocolate chip one, or 3 for banana one).
   - Then, ask for the quantity sold for the related muffin (int).
   - Create a switch a statement to calculate the retail price for each muffin.
   - When the user terminates the application, display the total retail value (double) of all muffins.
   - Additionally, add an if-else statement to check whether the user only enters 1, 2, 3 or 0. If the user enters invalid input, display a message that the user can only enter 1, 2, 3 or 0. Then, ask for new input.

   (**35 pts**) **UPLOAD Sales.java**

Sample output:

Total retail value of all muffins sold is 10*4.50 + 10*9.98 + 15*9.98=294.50

```
Enter muffin number (1-3 or 0 to stop): 2
Enter quantity sold: 10
Enter muffin number (1-3 or 0 to stop): 3
Enter quantity sold: 10
Enter muffin number (1-3 or 0 to stop): 4
Muffin number must be between 1 and 3 or 0 to stop
Enter muffin number (1-3 or 0 to stop): 3
Enter quantity sold: 15
Enter muffin number (1-3 or 0 to stop): 0

Total retail value of all muffins sold is: $294,50
```