
Due Date:	By 11:59pm February 19 2021
Evaluation:	3% of final mark (see marking rubric at the end of handout)
Late Submission:	none accepted
Purpose:	The purpose of this assignment is to help you learn Java identifiers, assignments, input/output, selection and flow of control statements: if, if/else. For loops
CEAB/CIPS Attributes:	Design/Problem analysis/Communication Skills

General Guidelines When Writing Programs:

- Include the following comments at the top of your source codes

```
// -----  
// Assignment (include number)  
// Written by: (include your name(s) and student id(s))  
// For COMP 248 Section (your section) – Winter 2021  
// -----
```
- In a comment, give a general explanation of what your program does. As the programming questions get more complex, the explanations will get lengthier.
- Include comments in your program describing the main steps in your program. Focus in your comments rather on the why than the how.
- Display a welcome message.
- Display clear prompts for users when you are expecting the user to enter data from the keyboard.
- All output should be displayed with clear messages and in an easy to read format.
- End your program with a closing message so that the user knows that the program has terminated.

Question 1 (Grading System Program) 6 pts

In this question, you will write a program to estimate the letter grade based on [Concordia undergraduate grading system](#) .

Your program should follow the following rules:

- Prompt the user to enter name, id and score and validates the information.
- The student name should be entered as “***LastName, FirstName***” (separated by comma). Please note the whole name should be saved in one string.
- The student ***ID*** must have 7 digits.
- The student’s ***SCORE*** must greater or equal to 0 and less or equal to 100.
- If the user enters invalid information, your program should repeat the current question.
- If the user enters correct information, your program should display the letter grade based on the score. When the letter grade is displayed, the output should be

“FirstName LastName got SCORE. Based on the grading system, FirstName (ID) will probably get X.”

Please note, score ≥ 80 , X = A, with the output message *"Congratulations!"*;
score ≥ 70 , X = B, with the output message *"You are so close to A!"*;
score ≥ 60 , X = C, with the output message *"You can do better by more practice!"*;
score < 60 , X = FNS, with the output message *"Please work harder to pass the course!"*;

- Your program should be able to ask user for new input of user's information for estimation until get the input **Yes** from the user.
- Display welcome & closing messages.

The following are sample screen shots to illustrate the expected behavior of your program. Your program must display the same information with the same format.

```
+++++
Welcome to Grading System Program!
+++++

Please enter your name (Lastname, Firstname seperated by comma): Quan,Zixi
Please enter your ID without any spaces (7 digits): 123
Please enter your ID without any spaces (7 digits): 1234567
Please enter your score (0-100): -90
Please enter your score (0-100): 99.5
Zixi Quan got 99.5.
Based on the grading system, Zixi (1234567) will probably get A! Congratulations!
Exit the program?(enter Yes to exit): No
Please enter your name (Lastname, Firstname seperated by comma): Roberts,Lydia
Please enter your ID without any spaces (7 digits): 9000001
Please enter your score (0-100): 0.5
Lydia Roberts got 0.5.
Based on the grading system, Lydia (9000001) will probably get FNS! Please work harder to pass the course!
Exit the program?(enter Yes to exit): Yes
Thank you for using Grading System Program!
```

Figure 1. Sample output of Question#1

Question 2 (Online Order Program) 8pts

In this question, you will write a program to help the customer order food online and calculate the total price.

Your program should follow the following rules:

- Prompt the user to enter the choice based on the menu and validates the information
- The choice should be an integer number displayed on menu from 1 to 6.

- A price to calculate the total expense of the user.
- Please find the menu and price in the following table. You must use **switch** statement to create the menu options.

Menu	Price without Meat	Price with beef	Price with pork
1. Hamburger	\$7.5	\$25.5	\$17.5
2. Pizza	\$7.5	\$25.5	\$17.5
3. Noodle	\$7.5	\$25.5	\$17.5
4. Salad	\$7.5	\$25.5	\$17.5
5. Sandwich	\$7.5	\$25.5	\$17.5
6. Exit			

- Your program should be able to ask user's new choice if the user enters Yes for more food.
- If the total price is less than \$50, the customer needs to pay \$5 for delivery.
- Your program should ask the amount of tips that the customer would like to pay.
- Display welcome/closing messages.

The following are sample screen shots to illustrate the expected behavior of your program. Your program must display the same information with the same format.

```

+++++
Welcome to Online Order Program!
+++++
1. Hamburger
2. Pizza
3. Noodle
4. Salad
5. Sandwich
6. Exit
+++++

Please enter your choice (1-6): 3

Your choice is: Noodle.
Would you like to have some meat on your Noodle? Yes

Beef or Pork? beef

Would you like to have more food? no

The total price is less than $50. You need to pay the delivery fee $5.

Would you like to pay some tips? Please enter the amount: 3.5

The total price is $34.0.

Thank you for using Online Order Program!

```

Figure 2. Sample output of Question#2

```

+++++
Welcome to Online Order Program!
+++++
1. Hamburger
2. Pizza
3. Noodle
4. Salad
5. Sandwich
6. Exit
+++++

Please enter your choice (1-6): 6

Your choice is: Finish the order!

No need to pay the delivery fee.

The total price is $0.0.

Thank you for using Online Order Program!

```

Figure 3. Sample output of Question#2

```

+++++
Welcome to Online Order Program!
+++++
1. Hamburger
2. Pizza
3. Noodle
4. Salad
5. Sandwich
6. Exit
+++++

Please enter your choice (1-6): 0

That is a wrong input. Please try again!
Please enter your choice (1-6): 3

Your choice is: Noodle.
Would you like to have some meat on your Noodle? Yes
Beef or Pork? beef

Would you like to have more food? Yes

Please enter your choice (1-6): 5

Your choice is: Sandwich.

Would you like to have some meat on your Sandwich? Yes
Beef or Pork? beef

Would you like to have more food? no

No need to pay the delivery fee.

Would you like to pay some tips? Please enter the amount: 5.5

The total price is $56.5.

Thank you for using Online Order Program!

```

Figure 4. Sample output of Question#2

Submitting Assignment 2

- Zip the source code (the .java file only please) of this assignment.
- Naming convention for zip file: Create one zip file, containing the source files for your assignment using the following naming convention:
 - The zip file should be called *a#_studentID*, where # is the number of the assignment and *studentID* is your student ID number.
For example, for the first assignment, student 123456 would submit a zip file named *a1_123456.zip*
- Submit your zip on moodle.
- Submit your assignment as “**Programming Assignment**” and select Submission **2** for Assignment #2. **Assignments not submitted to the correct location will not be graded.**
- **Be sure to keep your submission confirmation email.**

Evaluation Criteria for Assignment 1 (20 points)

Source Code	
Comments for all 3 questions (3 pts.)	
Description of the program (authors, date, purpose)	1 pts.
Description of variables and constants	1 pt.
Description of the algorithm	1 pts.
Programming Style for all 3 questions (3 pts.)	
Use of significant names for identifiers	1 pt.
Indentation and readability	1 pt.
Welcome Banner/Closing message	1 pt.
Question 1 (6 pts.)	
Prompt user/read data	1 pt.
Determine the letter grade	2 pts.
Ask the user for a new input	1 pt.
Display results	2 pts.
Question 2 (8 pts.)	
Prompt user/read data	2 pt.
Determine the food and total price	2 pts.
Determine the delivery fee and tips	2 pts.
Display correct results	2 pt.
TOTAL	20 pts.