

Due:

Tuesday, 12-October-2021 by 23:59

Deliverables:

The following Java files should be submitted to MS Teams by the due date and time specified above. Submissions received after the deadline will be subject to the late policy described in the syllabus.

- MyLifeGoals_{StudentNumber}.java
- ATM_{StudentNumber}.java

Specifications:

Overview: You will write two programs for this assignment. One will display your short-term, medium-term, and long-term goals to the standard output. The other will maintain the balance for a bank account. Do not forget your headers with @author and @version information.

- **My Life Goals**

Requirements: Write a program that prints your name, your short-term, medium-term, and long-term goals.

Design: Your program should consist of Java instructions to display the following information:

```
C:\>java MyLifeGoals_123456789
Joseph Ledet

Describe your short-term life goals. (in one line) This is more text that will make this line >100 characters.
Describe your medium-term life goals. (in one line)
Describe your long-term life goals. (in one line)
```

Describe your life goals (if you have never thought about them, this is a good chance to think about them carefully). The actual output for each line must be at least 100 characters. But remember that the lines of code can NOT exceed 80 characters.

Code and Test: The expected output for the program will vary from student to student, but it is important to follow the output pattern described above, formatting requirements, and minimum character requirements. If you aren't sure how many characters are in your output, you can copy your output into Microsoft Word and use the Word Count feature under the Review tab.

- **ATM**

Requirements: You will write a program this week to maintain the account balance for a user of an ATM. Do not forget your headers with @author and @version information. This program will be expanded in future weeks, so be sure you understand the concepts covered in this program. The program must request the starting balance from the user, then give the following four(4) options:

- Display Balance
 - User enters 1
 - Program displays the balance in the account and ends
- Deposit Money
 - User enters 2
 - Program requests the amount to be deposited
 - If the deposit amount is valid (non-negative), it adds the amount to the balance
 - Program displays the balance in the account and ends
- Withdraw Money
 - User enters 3
 - Program requests the amount to be withdrawn
 - If the withdrawal amount is valid (non-negative and not greater than the balance), it deducts (subtracts) the amount from the balance
 - Program displays the balance in the account and ends
- Exit
 - User enters 0
 - Program exits without displaying anything
- Invalid Entry
 - If the User enters a value other than 0-3, the program should display an error message and exit

Design: Your program should consist of Java instructions to display the following:

```
C:\>java ATM_123456789
Please enter the balance: 1000
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 1
The current balance is 1000.0
Have a nice day.
```

```
C:\>java ATM_123456789
Please enter the balance: 1000
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 2
Please enter the amount to deposit: 100
The current balance is 1100.0
Have a nice day.
```

```
C:\>java ATM_123456789
Please enter the balance: 1000
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 3
Please enter the amount to withdraw: 910
The current balance is 90.0
Have a nice day.
```

```
C:\>java ATM_123456789
Please enter the balance: 1000
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 0
C:\>
```

You should also verify that the user enters a valid option type and that the value entered is valid (non-negative):

```
C:\>java ATM_123456789
Please enter the balance: 1234
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 5
ERROR: Invalid selection. Exiting System.
```

```
C:\>java ATM_123456789
Please enter the balance: 123
What would you like to do today?
1 for Balance
2 for Deposit
3 for Withdrawal
0 to Quit
Please enter your selection: 2
Please enter the amount to deposit: -100
ERROR: Invalid deposit amount.
The current balance is 123.0
Have a nice day.
```

Code and Test: Create a variable to store the values of the option selection and values entered by the user and assign it using a `Scanner` object. The action requested will be an integer and the numerical values entered will be decimals. After verifying that the user has entered a valid number, calculate and print the information requested.

Grading:

MS Teams Submission: You can submit multiple times, however, we will only grade the last version that you submitted.

NOTE: If you use `System.exit()` in your code, you will automatically **receive 0 points** for this assignment.

Quiz in Lab: There will be a quiz based on this assignment given on 15-October. The result of this quiz will be used to determine your grade on this assignment. **Note:** if you do not submit the quiz, your score on this assignment **will be 0**.