FANSHAWE
School of Applied Science & Technology

GPA CALCULATOR

PURPOSE

In this exercise, GPA is calculated based on user grade input.

OBJECTIVES

After completing this exercise, you should be able to:

- Use if-elif-else control structures to choose different execution paths based on certain conditions
- Use relational operators and logical operators

PROCEDURE

PREPARE SUBMISSION FILE

1. Create a copy of the submission template called COMP6060**INIT**Lab4.docx where **INIT** is replaced with your own initials. So if your name is John Smith, the document will be called COMP6060**JS**Lab4.docx

PREPARE PYTHON FILE

1. Create a Python file in the COMP-6060 workspace called COMP6060**INIT**Lab4.py where **INIT** is replaced with your own initials. So if your name is John Smith, the document will be called COMP6060**JS**Lab4.py
2. Print out the following to the console, replacing NAME with your name:
   `Welcome to NAME's GPA calculator!`

PROMPT USER FOR GRADE PERCENTAGE

1. At the top of the Python file, create a function with the following details:
   a. Name: `getValidUserInput`
   b. Parameters: prompt string, minimum range value, maximum range value
   c. Return: valid integer value within the range
   d. Functionality: prompts the user for input using the prompt string parameter. Then it validates whether the value entered by the user is a numeric value. Use the following syntax:
   `if not value.isnumeric():`

```
print("Value entered was not a number. Exiting…")
exit(-1)
```

If the value is numeric, check if it falls within the min and max range parameter values. If it is not, print an appropriate error message then exit the program.

2. Outside the function, after printing the welcome message, call the function `getValidUserInput` with the following parameters:
   a. `Please enter your grade from 100:`
   b. `0`
   c. `100`
3. Store the value returned from the function in a variable with an appropriate name

Determine User GPA

1. Use an if-elif-else control structure to determine the user's GPA based on the following ranges:

Grade Range	GPA
90-100%	4.2
80-89%	4.0
75-79%	3.5
70-74%	3.0
65-69%	2.5
60-64%	2.0
55-59%	1.5
50-54%	1.0
Below 50	FAIL

2. Use the following string format to print out the results to the user:
   `Your GPA is gpa`
3. If the grade is below 50, print the message:
   `You have failed this course`

Submission

1. Copy your code, and paste it in the submission file
2. Show results to Instructor

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EXPECTED RESULTS

INVALID INPUT

```
Welcome to Lynn's GPA calculator!
Please enter your grade from 100: one hundred
Value is not a number... exiting
```

SCENARIO 1

```
Welcome to Lynn's GPA calculator!
Please enter your grade from 100: 88
Your GPA is 4.0
```

SCENARIO 2

```
Welcome to Lynn's GPA calculator!
Please enter your grade from 100: 30
You have failed this course
```

SCENARIO 3

```
Welcome to Lynn's GPA calculator!
Please enter your grade from 100: 74
Your GPA is 3.0
```

SCENARIO 4

```
Welcome to Lynn's GPA calculator!
Please enter your grade from 100: 75
Your GPA is 3.5
```

Student Name: _____ Instructor: _____

Date: _____