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CS 7

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<center>Programming Assignment 2-1</center>

1. Problem Definition

   a. A program that asks a user the number of females and males in their class, respectively. Then gives the user and output of: the total number of students in the class, the number of male and female students in the class, and the percentage of male and female students in the class.

2. Input/Output

   a. Input: an integer value of the number of male and female students in the class.

   b. Output: the total number of students in class, the number of males and females in the class, and the percentage of male and female students in the class.

```
Number of Males in class: 40
Number of Females in class: 60
The total number of students:          100
The Number of Males and Females:       40        60
The Percentage of Males and Females:   40.00%    60.00%
```
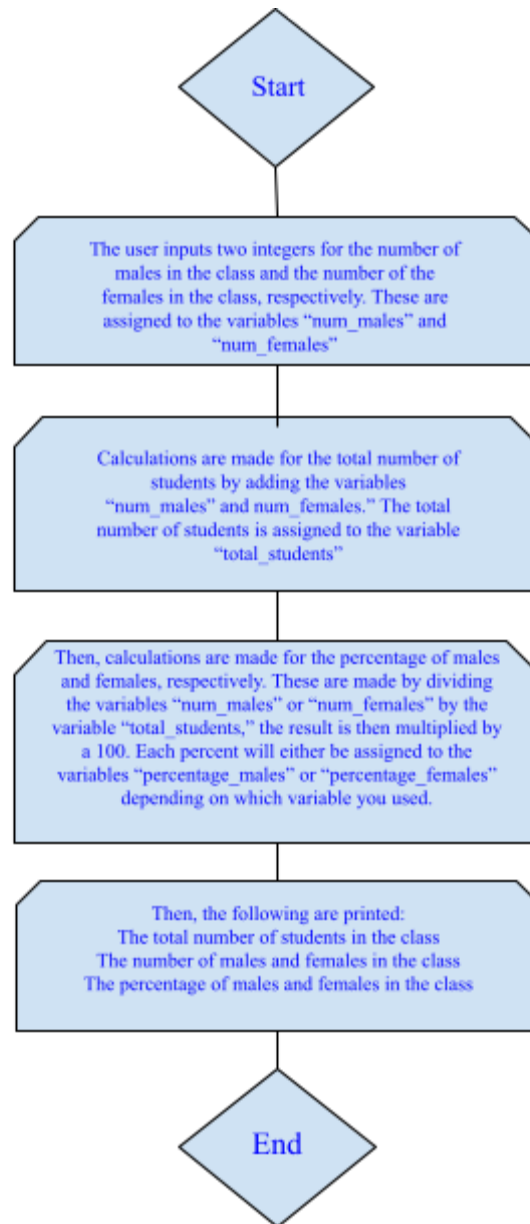
3. Variables

   a. **num_males:** input for the number of males in the class

   num_females: input for the number of females in the class

   total_students: a sum of "num_male" and "num_female" variables which gives you the total number of students in the class.

percentage_males: a division of the variable "num_male" by the variable "total_students" multiplied by the integer 100. This gives you the percentage of males in the class.

percentage_females: a division of the variable "num_female" by the variable "total_students" multiplied by the integer 100. This gives you the percentage of females in the class.

4. Flow

   Chart

```
                            ┌─────────┐
                            │  Start  │
                            └────┬────┘
```

The user inputs two integers for the number of males in the class and the number of the females in the class, respectively. These are assigned to the variables "num_males" and "num_females"

Calculations are made for the total number of students by adding the variables "num_males" and num_females." The total number of students is assigned to the variable "total_students"

Then, calculations are made for the percentage of males and females, respectively. These are made by dividing the variables "num_males" or "num_females" by the variable "total_students," the result is then multiplied by a 100. Each percent will either be assigned to the variables "percentage_males" or "percentage_females" depending on which variable you used.

Then, the following are printed:
The total number of students in the class
The number of males and females in the class
The percentage of males and females in the class

```
                            ┌─────────┐
                            │   End   │
                            └─────────┘
```

5. Errors and Lessons
    a. No errors experienced while writing this code.
    b. **Lessons:**
        i. In this assignment, I learned how to format the output of my code using the PEP-498; f-string format. These allowed me too use decimal points, as well as use spaces for my prints.
        ii. Int function

I learned how to have numbers count as integers when inputting by using an int function around my input function.