**Name: Session:**

**Programming I**

**Lab Exercise 9.8.2023**

Using Python, solve the following problems. Submit your documented source code. Your source code should have at minimum the following documentation:

#Name of program (i.e. Lab Exercise 9.12.2022 Problem 4)

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#Brief description of program

1. A store is having a sale. They’re giving 10 percent off purchases of $10 or lower, and 20 percent off purchases of greater than $10. Write a program that asks the purchase price and displays the discount (10% or 20%) and the final price.

2. A soccer team is looking for girls from ages 10 to 12 to play on their team. Write a program to ask the user’s age and if male or female (using “m” or “f”). Display a message indicating whether the person is eligible to play on the team.

3. You’re on a long car trip and arrive at a gas station. It’s 200 miles to the next station. Write a program to figure out if you need to buy gas here, or if you can wait for the next station.

The program should ask these questions:

■ How big is your tank, in gallons?

■ How full is your tank (in percent—for example, half full = 50)?

■ How many miles per gallon does your car get?

The output should look something like this:

Size of tank: 15

Percent full: 40

Miles per gallon: 10

You can go another 150 miles

The next gas station is 200 miles away

You had better get some gas now.

4. Make a program where the user has to enter a secret password to use the program. You’ll know the password, of course (because it’ll be in your code). But your friends will either have to ask you, guess the password, or learn enough Python to look at the code and figure it out! The program can be anything you want, including one you have already written, or just a simple one that displays a message like “You’re in!” when he enters the right password.

5. Computers can be really finicky. In this exercise, you will create a mood detector which will detect the mood of your computer. Your computer can have 3 moods; happy, neutral, or sad. Your program should generate a random integer from 1 to 3. If the integer is 1, the computer is happy and you should print an appropriate graphic. If the integer is 2, the computer is neutral and if the integer is 3, your computer is sad. Print the appropriate graphic. Consider using multiline strings (that is the one with the triple quotes).