**Name:**

**Advanced Programming in C++**

**Lab Exercise 1/22/2025**

In this exercise, you are to write programs to solve the following problems. Submit your documented source code and attach it to this handout. **As part of your documentation in your source code, include a sample output.** If you don’t know how to capture the contents of the console, let me know and I will show you.

1. The East Coast sales division of a company generates 62% of total sales. Based on that percentage, write a program that will predict how much East Coast division will generate if the company has $4.6 million in sales this year.
2. Write a program that computes the tax and tip on a restaurant bill for a patron with a $45.50 meal charge. The tax should be 6.75 percent of the meal cost. The tip should be 15 percent of the total after adding tax. Display the meal cost, tax amount, tip amount, and total bill.
3. You have been given a job as a programmer on a Cyborg supercomputer. In order to accomplish some calculations, you need to know how many bytes the following data types use: *char*, *int*, *float*, and *double*. You don’t have any manuals so you can’t look up the information. Write a C++ program that will determine the amount of memory used by these types and display the information on screen.
4. Write a program that will allow the user to enter the number of gallons required to fill the gas tank as well as the number of miles driven since the last fill-up. The program should then print the number of miles per gallon the car is getting.