**Name:**

**Advanced Programming in C++**

**Lab Exercise 1/31/2025**

In this exercise, you will write several programs that will demonstrate some of the basic features of the C++ programming language. When you have completed your programs, you are to submit your documented source code as well as a sample output.

1. Write a program that asks the user to enter three integers. The program should then determine which integer is the largest and which is the smallest and print a report to the screen.
2. Write a program that asks the user to enter the following state abbreviations: NH, VT, ME, MA or NY. The program should then print the name of the state to the screen.
3. Write a program that asks the user to enter a test score (from 0 to 100). The program should then print the letter grade using the 90-80-70-60 scale. The program should test to make sure the user has entered a score of valid range.
4. Write a program that displays the following menu:
   1. Calculate the Area of a Circle
   2. Calculate the Area of a Rectangle
   3. Calculate the Area of a Triangle
   4. Quit

Enter your choice (1 – 4):

Use a defined constant for PI. If the user enters 1, the program should ask for the radius. If the user enters 2, the program should ask for the length and width. If the user enters 3, the program should ask for the length of the base and the height. If the user enters 4, the program should end.