**Chapter 4 – C++**

1. **Minimum/Maximum**

Write a program that asks the user to enter two numbers. The program should use the conditional operator to determine which number is the smaller and which is the larger.

1. **Roman Numeral Converter**

Write a program that asks the user to enter a number within the range of 1 through 10. Use a switch statement to display the Roman numeral version of that number.

*Input Validation: Do not accept a number less than 1 or greater than 10.*

1. **Magic Dates**

The date June 10, 1960 is special because when we write it in the following format, the month times the day equals the year.

* + 6/10/60

Write a program that asks the user to enter a month (in numeric form), a day, and a two-digit year. The program should then determine whether the month times the day is equal to the year. If so, it should display a message saying the date is magic. Otherwise, it should display a message saying the date is not magic.

1. **Areas of Rectangles**

The area of a rectangle is the rectangle’s length times its width. Write a program that asks for the length and width of two rectangles. The program should tell the user which rectangle has the greater area, or if the areas are the same.

1. **Body Mass Index**

Write a program that calculates and displays a person’s body mass index (BMI). The BMI is often used to determine whether a person is overweight or underweight for his or her height. A person’s BMI is calculated with the following formula:

BMI=weight×703/height2BMI=weight × 703/height2

where *weight* is measured in pounds and *height* is measured in inches. The program should display a message indicating whether the person has optimal weight, is underweight, or is overweight. A person’s weight is considered to be optimal if his or her BMI is between 18.5 and 25. If the BMI is less than 18.5, the person is considered to be underweight. If the BMI value is greater than 25, the person is considered to be overweight.