**Worksheet 6**

1. Write a program that prompts a user to enter an integer in each element of a five-element array. Loop through the contents and display the element number and its corresponding value. Call a custom function to double the value in each element. Print the number and value after doubling.
2. Open “utils.h” and add functions to accept a single integer argument and use it to calculate the area and circumference of a circle. Write a program that prompts user to input an integer, calls the functions in the included file to calculate the results and outputs the information to the screen.
3. Write a program that presents user with a menu of two options and Exit. User may choose to raise a number to a specific power, or to find the square root of a number. Depending on their selection, the program will prompt for input of a single number, or two numbers, or the program will terminate. The numbers provided by the user needn’t be integers. Output the result to the screen.
4. Write a program to convert input from Imperial to metric. Provide function celsius() to convert degrees Fahrenheit to degrees Celsius. (The conversion formula is °C = 5/9 \* (°F - 32).) Provide function kilos() to convert weight from pounds to kilos. (1Kg = 2.2 lbs) Can you use recursive calls to prevent user providing data that could crash the program or result in spurious output?