Problem Set 02 - CPP Intermediate

(Mandatory)

Write the following C++ programs in separate files such that the name of each file is in the format

`main2`n`.cpp`

where n is the number of the program in the list below.

Programs:

1. Write a program that initializes an array with all the permutations of the letters a, b, and c, and then displays the elements of the array.
2. Write a program that displays 50 even consecutive numbers starting with 18 on separate lines.
3. Write a program that displays the sum of non-multiples of 5 between 100 and 300 inclusively.
4. Write a program that displays the sum of the elements of a number array excluding the maximum value of the array.
5. Write a program that defines a number function that takes four number parameters and returns the result of

   $$ax^2 + bx + c$$

   where a, b, c, and x are the values of the parameters in order. Afterward, it prompts the user to enter four numbers and then displays the result of a caller of the function written with the inputs as the arguments.
6. Write a program that defines a string function that takes a nonnegative integer parameter and returns a line of a length equal to the parameter of asterisks. Afterward, it displays a right triangle of asterisks with a height of 5.
7. Write a program that defines a Boolean function that takes an integer parameter and returns true if the parameter is prime; otherwise, it returns false. Afterward, it prompts the user to enter an integer until the input is prime, and displays the result.
8. Write a program that defines a string function that takes a string array and integer parameters and returns the concatenation of the elements of the array parameter given that the integer parameter represents the size of the array. Afterward, initialize an array with eight five-letter words and then display the outcome of a caller of the function with the array as its argument.