Review 2: Arrays and Strings

Arrays

1. Write a C program that find maximum in an array of numbers. Assume that the size of the array is 5.

   Sample Run:
   Enter array's elements: 10 15 4 1 20
   Maximum is 20

2. In computer science, a linear search is a method for finding an element within an array. It sequentially checks each element of the array until a match is found. Assume that your array has the following element: {1,2,3,4,5}. If user wants to search for value 3, then the output of the program will be "Element found,index: 2". If the search element is not in the array, then your program will display "Element not found".

   Sample Run 1:
   Enter element that you want to search for: 4
   Element found,index: 3

Arrays and Functions

3. Write a C program using a function called count_positives() that gets an array and counts the positive values in that array. Assume that the size of the array is 5. Here is the function declaration/prototype: int count_positives(int a[],int size);

   Sample Run:
   Enter array's elements: 4 5 -10 2 -3
   Your array has 3 positive elements.

4. Write a C program using a function called find_divisible_by_2() that gets an array and prints the elements of that array which are divisible by 2. Assume that the size of the array is 10. Here is the function declaration/prototype: void find_divisible_by_2(int a[],int size);

   Sample Run:
   Enter array's elements: 10 15 4 1 20 54 6 79 15 63
   Elements divisible by 2: 10 4 20 54 6

Strings

5. Write a C program that gets a string from the user and counts total number of digits in that string. Assume that the size of your string is 10. Use isdigit() function to check whether the character is digit or not. For example: isdigit(„a") returns 0 (false), isdigit(„3") returns true(1). Please remember that you need to include <ctype.h> for isdigit() library function

6. Implement a C program that includes a function that returns the length of a string. For example, given the string "Hello", your function needs to return 5. Therefore, your function needs to accept a String and return an integer value. You cannot use string.h library for this exercise.
   A sample run would be as follows:
   Please enter a string: cngcourse
   Your string has 9 characters.

7. Implement a C program that includes a function that copies one string into another string. You cannot use string.h library for this exercise.

   A sample run would be as follows:
   Please enter a string 1: cngcourse
   String 1 is copied to String 2
   String 1 is cngcourse and String 2 is cngcourse.

8. Write a C program that includes a function that concatenates two strings. You cannot use string.h library for this exercise.

   A sample run would be as follows:
   Please enter a string 1: hello
   Please enter a string 2: world
   After concatenation, new string is helloworld