Assignment 8

1. A file contains a list of numbers. The file is stored in the following order:
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
   Each number is on a separate line. The file contains 15 numbers.
   Write a C program to read the file, sort the numbers in ascending order, and write the sorted numbers back to the file.

2. Write a C program that reads a file containing a string and counts the number of occurrences of a specific character in the string. The file is stored in the following order:
   "This is a string with a specific character."
   Each word on a separate line. The file contains 5 words.
   Write a C program to read the file, count the number of occurrences of a specific character, and print the count.

3. Write a C program that reads a file containing a list of integers and calculates the sum of all the even numbers in the list. The file is stored in the following order:
   1 2 3 4 5 6 7 8 9 10
   Each integer on a separate line. The file contains 10 integers.
   Write a C program to read the file, calculate the sum of all the even numbers, and print the sum.

4. Write a C program that reads a file containing a list of strings and prints the longest string in the list. The file is stored in the following order:
   "Apple" "Orange" "Grape" "Banana"
   Each string on a separate line. The file contains 4 strings.
   Write a C program to read the file, find the longest string, and print it.

5. Write a C program that reads a file containing a list of dates in the format "MM/DD/YYYY" and calculates the total number of days in the year. The file is stored in the following order:
   01/01/2023
   Each date on a separate line. The file contains 1 date.
   Write a C program to read the file, calculate the total number of days in the year, and print the number.

6. Write a C program that reads a file containing a list of temperatures in degrees Celsius and converts them to degrees Fahrenheit. The file is stored in the following order:
   10
   Each temperature on a separate line. The file contains 1 temperature.
   Write a C program to read the file, convert the temperatures, and print them.

7. Write a C program that reads a file containing a list of numbers and calculates the average of those numbers. The file is stored in the following order:
   5 4 3 2 1
   Each number on a separate line. The file contains 5 numbers.
   Write a C program to read the file, calculate the average, and print it.

8. Write a C program that reads a file containing a list of names and prints the names in alphabetical order. The file is stored in the following order:
   "John" "Jane" "Mike" "Sarah"
   Each name on a separate line. The file contains 4 names.
   Write a C program to read the file, sort the names, and print them.

9. Write a C program that reads a file containing a list of dates in the format "MM/DD/YYYY" and prints the date with the earliest year. The file is stored in the following order:
   01/01/2023
   Each date on a separate line. The file contains 1 date.
   Write a C program to read the file, find the date with the earliest year, and print it.

10. Write a C program that reads a file containing a list of numbers and finds the smallest and largest number. The file is stored in the following order:
    10 20 30 40 50
    Each number on a separate line. The file contains 5 numbers.
    Write a C program to read the file, find the smallest and largest number, and print them.

11. Write a C program that reads a file containing a list of dates in the format "MM/DD/YYYY" and prints the date with the latest month. The file is stored in the following order:
    01/01/2023
    Each date on a separate line. The file contains 1 date.
    Write a C program to read the file, find the date with the latest month, and print it.

12. Write a C program that reads a file containing a list of names and prints the number of names that start with a specific letter. The file is stored in the following order:
    "John" "Jane" "Mike" "Sarah"
    Each name on a separate line. The file contains 4 names.
    Write a C program to read the file, count the names that start with a specific letter, and print the count.