

Lab Exercises

Exercise 1

1. Write a C program that sums up the odd and even numbers, respectively, from 1 to a given upperbound inclusive (taken as user input). The program should then print out the sum of the odd numbers, the sum of the even numbers, the absolute difference between the sums, a third of the sum of the even numbers and a 5th of the sum of the odd numbers.

Goals of the above exercise:

This problem has been designed to get you familiar with the following in C:

- Data types
- Variables
- Flow Control
- Loops
- Format Specifiers

Exercise 2

2. Write a program that prompts the user for a positive integer and then computes the sum of all the digits of the number. For example, if the user enters 2784, then the program reports 21. If the user enters 59, then the program reports 14. The program should work for any number having one to ten digits.

Goals of the above exercise:

This problem has been designed to get you familiar with the following in C:

- Variables
- Flow Control
- Loops

Exercise 3

3. Write a program that prompts the user for a positive integer and then reports the closest integer having a whole number square root. For example, if the user enters 8, then the program reports 9. If the user enters 18, then the program reports 16. The program should work for any number having one to seven digits.

For this exercise, I want you to write a C function that takes an integer as input and checks to see if the given integer is a perfect square. Use that function in your program for the above problem

Goals of the above exercise:

This problem has been designed to get you familiar with the following in C:

- Variables
- Flow Control
- Data types
- Loops
- Functions

Exercise 4

4. Write a program that will prompt the user to input ten integer values. The program will then display the smallest and greatest of those values. It also displays the value that occurs the most.

Goals of the above exercise:

This problem has been designed to get you familiar with the following in C:

- Variables
- Flow Control
- Data types
- Arrays