CS580U

Exercise # 2

Deadline Sep 15, 2025, Midnight (See GitHub Submission Instructions Below)

(1) Write a C program which computes the area of 5 geometrical shapes (such as triangle, circle, rectangle, etc.) using a menu-driven approach.

(2) Write a C program that implements a program to check if a given number (through keyboard) is a **palindrome** using a while loop.

A palindrome number is a number that reads the same forward and backward. In other words, if you reverse the digits of a palindrome number, you get the same number. For example, 121 is a palindrome number because if you read it backward, it is still 121. Another example of a palindrome number is 132231.

(3) Write a C program that calculates the average of a set of numbers input by the user (using d-while loop). The user should be able to input as many numbers as desired, and the program should continue until the user decides to stop.

(4) Write a program in C to print all **perfect numbers** in a given range using the function.

In number theory, a perfect number is a positive integer that is equal to the sum of its positive proper divisors, that is, divisors excluding the number itself. For instance, 6 has proper divisors 1, 2 and 3, and 1 + 2 + 3 = 6, so 6 is a perfect number. The next perfect number is 28, since 1 + 2 + 4 + 7 + 14 = 28.

This is the GitHub link to submit Ex 2: https://classroom.github.com/a/JrO76Dz9

Step 1: Click on the above link if you already have a GitHub account, if NOT create your own GitHub account, then click on the above link and join the classroom.

Step 2: After opening the link above accept the test Assignment.

Step 3: Click on the newly appeared GitHub link and see the attached PDF.

Step 4: Upload your C program on GitHub using the Add file tab.