CSE 102: Structured Programming Lab
Practice Problems

Objectives

This document contains a list of practice problems for you to practice. I encourage you to go through all of them and practice solving them on your own. **This will help you get into the mindset of problem-solving and understand how to solve problems, familiarize you with common coding problems and their solution, and help build confidence.** Some of these problems will be very difficult for you, but with time you guys will understand the concept of solving them. You can ask me for help regarding these practice problems. All of these problems can be solved using things you have already been taught in class.

Problem List

1. Print "Hello World".
2. Take the value of a variable as input and print the variable.
3. Take multiple inputs from the user on the same line and print them in order.
4. Take four numbers as input from the user and print their average.
5. Take the height and width as input from the user and find the area of a triangle.
6. Write a program that takes nine numbers as input from the user and prints them in a 3×3 matrix structure.
7. Take the radius as input from the user and find the area of a circle.
8. Take two numbers as input from the user and print all the odd numbers between those two numbers, including those two numbers.
9. Take the pH as input from the user and print whether the liquid is acidic or basic.
10. Take a number as input from the user and print whether it is a prime number or not.
11. Take the Celcius as input from the user and print the corresponding Fahrenheit.
12. Take the year as input from the user and print whether it is a leap year or not.
13. Take two numbers as input from the user and swap their values.
14. Take the number as input from the user and reverse the digits of the number. (Example: 7842 will be 2487)

15. Take two numbers as input and find their LCM.

16. Take two numbers as input and find their HCF.

17. Take a number as input and find the factorial of that number. (Example: $4! = 24$)

18. Take an integer n as input from the user. Write a program that displays the Fibonacci series up to n term. In the Fibonacci series, the first two numbers are 0 and 1. The remaining numbers are the sum of the previous two.

19. Take a number as input and check whether it is a palindrome or not. (A palindrome is a number that reads the same backward and forward. 242 is a palindrome.)

20. Take an input n from the user. Then take n numbers as input from the user and print the average of those numbers.

21. Write a program to swap two numbers without using a third variable.

22. Take a number as input and swap the first and last digits of that number. (Example: 7842 will be 2847)