Lab 1
Thursday, September 14, 2023

You will get 1 point for attending the lab, making an effort to work on the problems, and **discussing your work with a lab instructor during the lab**.

If you finish during the lab, demonstrate your solution to a lab instructor and they will give you the full 2 points. If you do not finish during the lab, discuss what you've done with a lab instructor and they will give you an opportunity to finish outside of the lab and attend office hours to demonstrate your solution.

Practice Problem. You do not need to submit solutions for practice problems and during the lab the teaching assistants will solve these problems if requested.

Complete an implementation of the following function.

```
// print_triangle(n) prints a right-angle triangle out of asterisks (*) of
//   height and width n (see example below); it returns the number asterisks
//   used in the triangle
// requires: n >= 1
//   example: print_triangle(5) should print the following exactly:
// *
// **
// * *
// *  *
// *****
int print_triangle(int n);
```

Test your function on at least five cases (including both even and odd cases) and use `assert` to verify the return value is correct. For example, `print_triangle`(5) should return 12.

Assessment Problem. Complete an implementation of the following function.

```
// print_xbox(n) prints a box of asterisks (*) of height and width n
//   with lines connecting the corners (see examples below); it returns the
//   number asterisks used in the box
// requires: n >= 1
//   example: print_xbox(5) should print the following exactly:
// *****
// *\ /*
// * X *
// */ \*
// *****
//   example: print_xbox(4) should print the following exactly:
// ****
// *\/*
// */\*
// ****
int print_xbox(int n);
```

Test your function on at least five cases (including both even and odd cases) and use `assert` to verify the return value is correct. For example, `print_xbox`(5) should return 16.