COSC4370 Fall 2020 HW1 - Rasterizer

Sep. 17, 2020
Due: Sep. 24, 11:59 PM

1 Introduction

In this assignment, we are going to derive and implement a similar algorithm for rasterizing circles. In particular, we will rasterize the half of the circle $x^2 + y^2 = R^2$ where $x \geq 0$ and positive integer $R = 100$ and the half of the circle $x^2 + y^2 = R^2$ where $y \geq 0$ and positive integer $R = 150$.

We suggest you to read "Computer Graphics Principles and Practice - Foley et. al" section 3.2 "Scan Converting Lines" and section 3.3 "Scan Converting Circles". It should be included in the handout as reading.pdf.

2 Setup

Linux \OS X

Compile main.cpp using the following command: g++ main.cpp

Windows

Create a new solution as an empty project, then add existing file - main.cpp

3 Note

The code for your rasterizer is in one file - hw1.cpp . Do NOT add source files because the entire assignment is self-contained to this one file. Also, use integer arithmetic in your code as opposed to doubles or others!

4 Deliverables

Submit all deliverables to your Github project.

- Source code contained in a single file: hw1.cpp
- circle.ppm - an image file generated from hw1.cpp