

CS148 Summer 2016 HW1 - Rasterizer

Introduction

We derived Bresenham's algorithm for rasterizing lines. In this assignment, we are going to derive and implement a similar algorithm for rasterizing circles.

There are two parts for this assignment. A written part and a programming part.

Setup

Linux\OS X

Compile main.cpp using the following command: `g++ hw1.cpp`

Windows

Create a new solution as an empty project, then add existing file - hw1.cpp

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!

The Main Assignment

For written part, answer questions given in the hw1.pdf. We highly encourage you to work on written part first because it will help you through programming part. For programming part, instructions are in the comments. Make sure that you run the code to get circle200.ppm!

Deliverables

Submit all deliverables to the course staff's gmail address. Note: submitting everything together as a .zip file is easiest for your graders.

- Written assignment answer file: hw1_answer.pdf
- Code to generate circle200.ppm contained in a single file: hw1.cpp
- circle200.bmp - an image file generated from hw1.cpp
- Any feedback you may have about this assignment

Reminder

Please recall and follow the university's and the department's honor codes. Please also recall and follow the collaboration and late day policies set forth for the course. If you are ever unsure, please ask first!