# Assignment #2: algorithms and complexity
**8/10** Points

**9/13/2023**

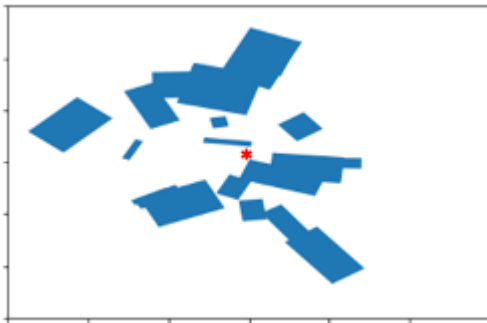| Attempt 1 ⌄ | ◯ | Review Feedback **9/13/2023** | Attempt 1 Score: **8/10** | 🗨 View Feedback |
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Anonymous Grading: **no**

**Unlimited Attempts Allowed**

⌄ **Details**

You are observing n rectangles from an origin ($360^O$ view) in arbitrary positions (distances and orientations) in cartesian coordinate system, as shown below (origin with red star).



Any rectangle can occlude any other rectangle, and a rectangle can occlude more than one rectangles; no rectangle can overlap with the origin or with any portion of other rectangles.

Calculate n random rectangles (with respect to position and orientation), with n being the user-defined input. Calculate the total occlusion angle over all rectangles with the lowest time complexity possible. Example of an occlusion angle between two rectangles is illustrated with the shaded area in the illustration below.
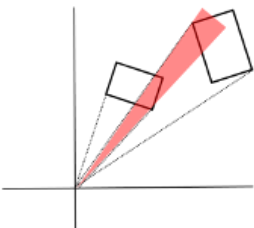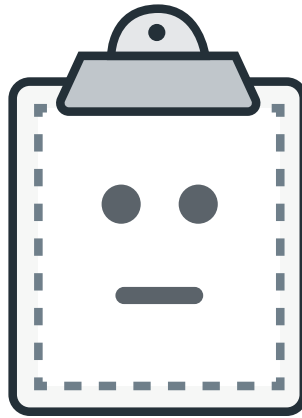


Submit:
-- report with explanation of your approach (include diagrams/examples if needed) in pdf format, no screen captures, no scanned images/documents
-- C++ code, along with a screen recording of its compilation/exec.

**NOTE:**

All files you submit should be in a single file, **X_Y_PA2.zip** or **X_Y_PA2.tar.gz**, where X is your first name (capital letters) and Y is your last name (capital letters). The compressed file should contain:

- Your code files (.cpp, .h, etc.), along with a screen recording of its compilation/exec.
- Any input file(s) that your program uses.
- A Makefile file that contains all the commands needed to compile your code on **tesla.cs.iupui.edu**. All the code will be tested on tesla.cs.iupui.edu with its g++. We should be able to compile your code by executing **make**.
- A **README.txt** file showing how the users should use your program.
- **Report.pdf** with your report/runtime analysis.

## Preview Unavailable

PARMINDAR_SINGH_PA2.ZIP.zip

⬇ Download

(https://iu.instructure.com/files/162225087/download?
download_frd=1&verifier=eLzsUW0RwbpJzpJFS4MBGFI4NeV0j7QAvmYUP0Pe)

*You are unable to submit to this assignment as your enrollment in this course has been concluded.*