

Two-Dimensional Raymarching Lab Grading Rubric

| Criteria | Grade |
|---|-------------------|
| Program successfully compiles and executes without any erroneous errors. | Out of 25 points. |
| Program has high-quality style (i.e., appropriate comments and indentation). | Out of 15 points. |
| <code>RectangleObject</code> , <code>CircleObject</code> , and <code>CollisionObject</code> are correctly implemented. <code>RectangleObject</code> and <code>CircleObject</code> both appropriately extend the superclass <code>CollisionObject</code> (step 3). | Out of 5 points. |
| A list of <code>CollisionObjects</code> exists in the <code>RaymarcherPanel</code> class (step 4). | Out of 5 points. |
| The <code>CollisionObjects</code> list is populated with random shapes (step 5). | Out of 5 points. |
| The <code>Camera</code> and <code>March</code> classes are correctly created. | Out of 5 points. |
| The <code>Drawable</code> interface is used. <code>CollisionObject</code> , <code>Camera</code> , and <code>March</code> implement <code>Drawable</code> . | Out of 5 points. |
| The <code>MouseMotionListener</code> is created and correctly instantiated and implemented. | Out of 5 points. |
| A method to compute the minimum distance from the cursor to all objects in the scene is correctly implemented. | Out of 10 points. |
| A circle extends out from the cursor to the closest object in the scene, measured from the method created in the previous step. | Out of 5 points. |
| The ray is constructed correctly where each circle is drawn at the appropriate distance. | Out of 10 points. |
| The ray can be rotated via user input (either mouse or keyboard). | Out of 5 points. |

This lab is very progressive, meaning that each step builds on top of the previous. This being the case, we decided to weigh a generous portion of the points towards successful compilation and style. When grading, use your best judgment to determine if full points ought to be awarded for a criterion. For the steps that construct the ray marcher (all but the first two), these will, generally, be “all or nothing” points, meaning that if it was successfully implemented, they get the points. If a clear effort was made, then partial credit may be awarded.