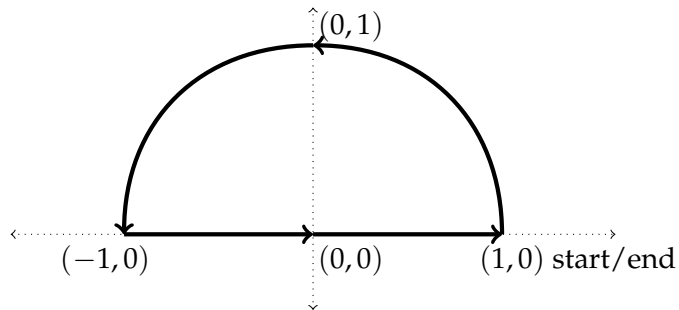


1. The water current at each point (x, y) in a lake is given by $F(x, y) = \langle 1 - y, x \rangle$. You row your boat from the point $(1, 0)$, along the top half of a semi-circle to the point $(-1, 0)$, and then back along a straight line, as shown below:



- a) How much work is done by the current...
- (4 points)... during the first part of the path (the semicircle)?
 - (4 points)... during the second part of the path (the line)?
- b) (2 points) Is the vector field $F(x, y)$ conservative? why or why not?
- c) (0 points) What was your favorite part of this class?