Algorithm Exercise with Model Boats

Requirements:

- Model boat with rudder, mainsail, windvane
- 1 person to control the rudder and mainsheet
- 1 person to adjust the windvane and mainsail boat as the conditions change

Exercise 1: Head Up

- Set your wind arrow to indicate wind direction.
- Set the boat on a Beam reach, port tack. Adjust the windvane and mainsail accordingly
- Move rudder and slowly head up until you are in a close haul. Straighten the rudder, and set the windvane and mainsail accordingly.

Exercise 2: Bear Off

- Check that your boat properly shows a close haul according to the wind arrow.
- Move rudder to bear off slowly until on a run. Adjust the windvane and mainsail accordingly
- Straighten the rudder, and set the windvane and mainsail accordingly.

Exercise 3: Tack

- Set your wind arrow to indicate wind direction.
- Set the boat on a Beam reach, starboard tack. Adjust the windvane and mainsail accordingly
- Move rudder and slowly head up until you are in a close haul. Straighten the rudder, and set the windvane and mainsail accordingly.
- Yell "ready about" and move rudder through the tack, stopping when you are on the opposite close haul. Adjust the windvane and mainsail accordingly

Exercise 4: Sail to a given point

- Set your wind arrow to indicate wind direction and set a destination point somewhere outside of the no-go range. Set your boat pointing some way other than the destination.
- Move rudder and slowly change course until you are facing the destination. Straighten the rudder, and set the windvane and mainsail accordingly.
- Sail until you reach the destination, then fall off into safety position.

Exercise 5: Get out of irons

- Set your wind arrow to indicate wind direction and set your boat in irons.
- Move rudder and slowly rotate until you can safely sail out of irons. Set the windvane and mainsail accordingly. Straighten the rudder