# === Problem 6
#
ANSWER THE FOLLOWING QUESTIONS:
#
1)How does the performance of the two robot types compare when cleaning 80%
of a 20x20 room?

1. Examine show_plot_compare_strategies in ps3.py, which takes in the parameters title, x_label, and y_label. It outputs a plot comparing the performance of both types of robots in a 20x20 EmptyRoom with 3 units of dirt on each tile and 80% minimum coverage, with a varying number of robots with speed of 1.0 and cleaning capacity of 1. Uncomment the call to show_plot_compare_strategies, and answer question #1. Depending on your computer, it may take a few seconds for the plot to show up
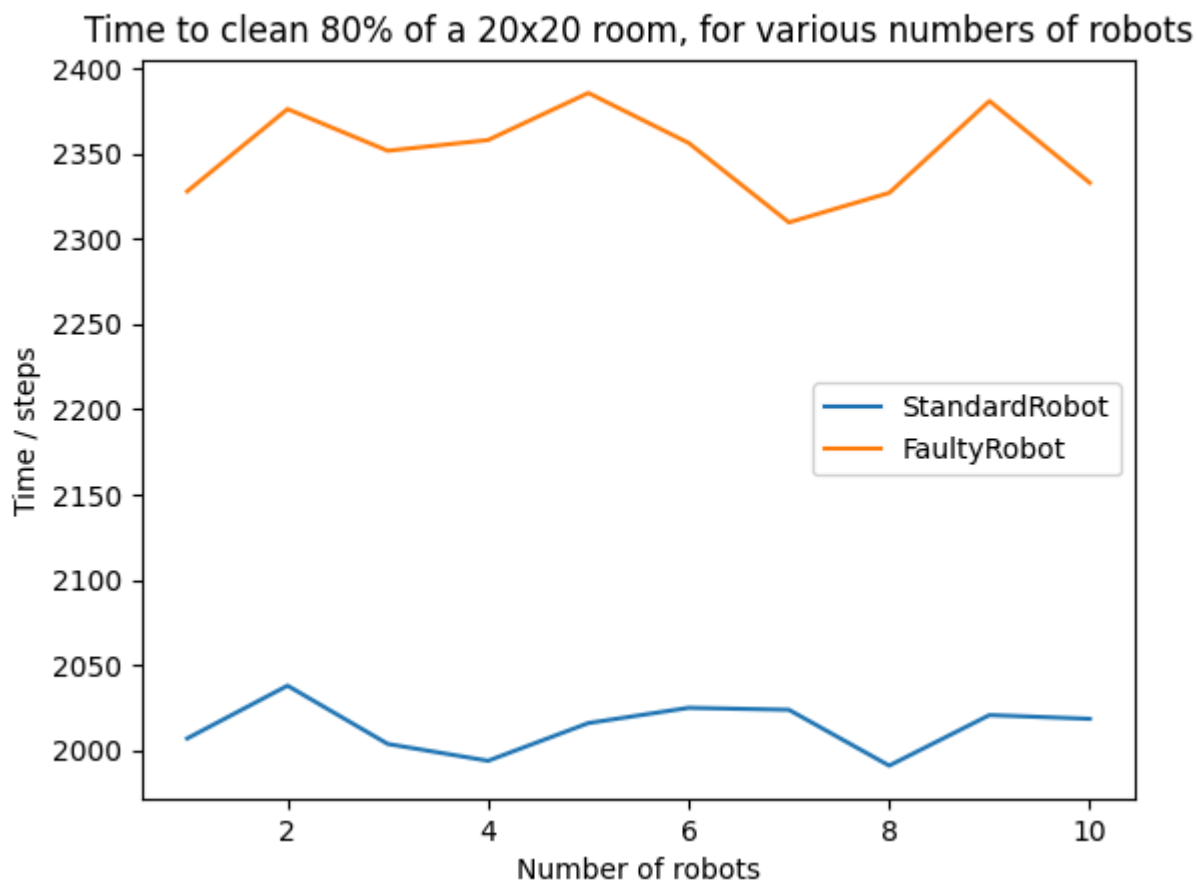
Type of robots with high degree of confidence that robot type has significant effect on performance since the steps needed to clean the room is significantly different.

On the other hand the number of robots is more interesting that more robots does not always produce better performance.

The optimum number of robots is 8 for standard robot and 7 for faulty robots

2) How does the performance of the two robot types compare when two of each
robot cleans 80% of rooms with dimensions
10x30, 20x15, 25x12, and 50x6?
2. Examine show_plot_room_shape in ps3.py, which takes in the same parameters as show_plot_compare_strategies. This figure compares how long it takes two of each type of robot to clean 80% of EmptyRooms with dimensions 10x30, 20x15, 25x12, and 50x6 (notice that the rooms have the

same area.) Uncomment the call to show_plot_room_shape, and answer question #2. Depending on your computer, it may take a few seconds for the plot to show up

Time to clean 80% of a 300-tile room for various room shapes
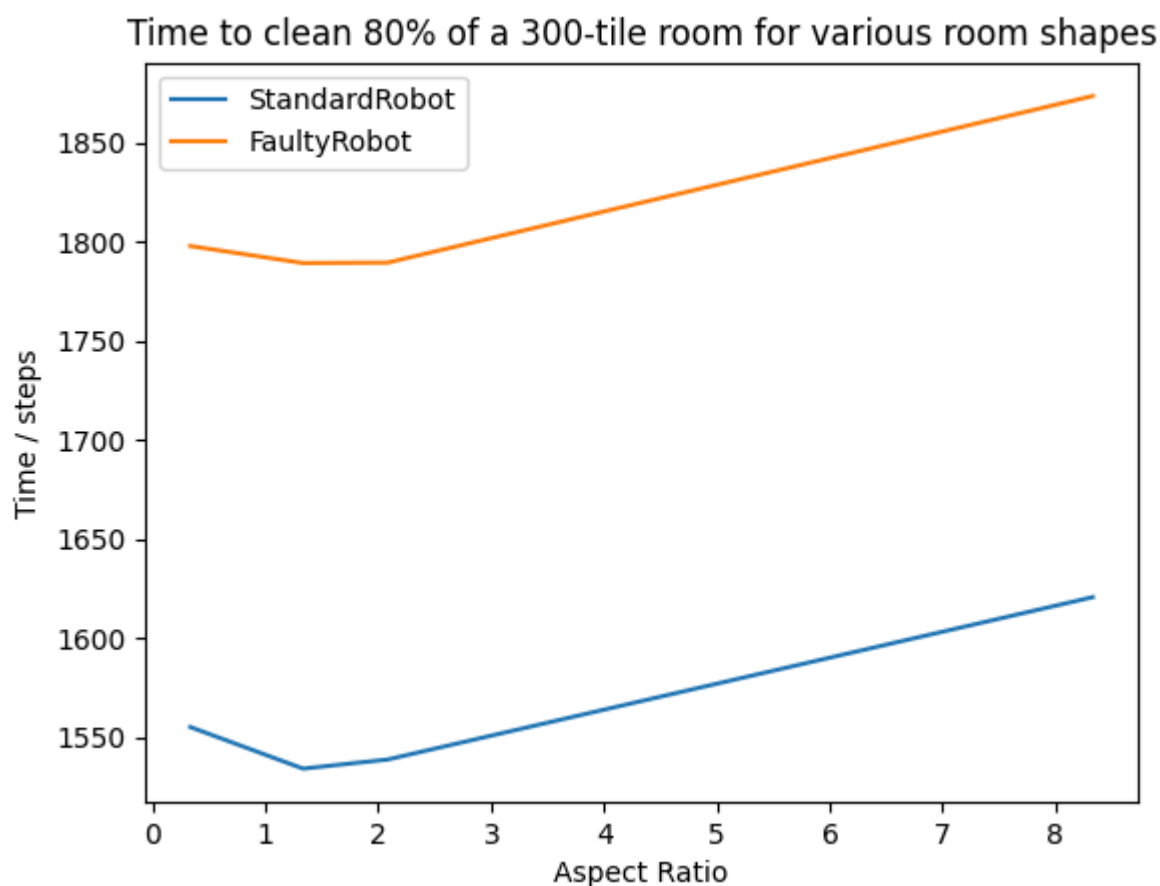
The best ratio is closer to 1 for both standard and faulty robots. Meaning the closer the room shapes to a square the performace is tend to be better.