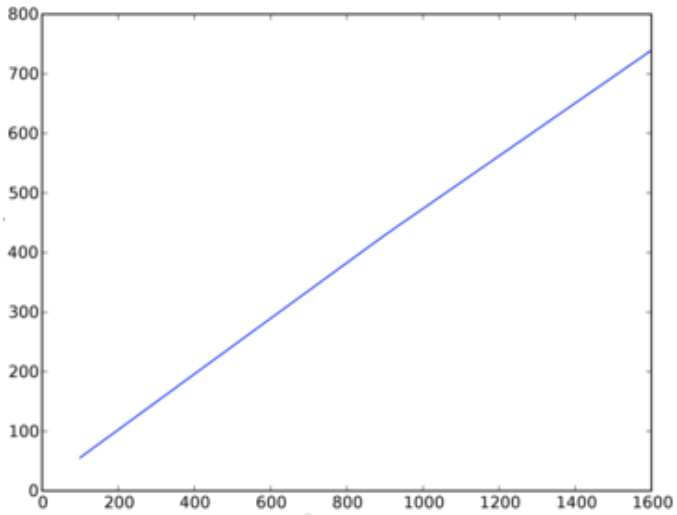
Now, you'll use your simulation to answer some questions about the robots' performance.

In order to do this problem, you will be using a Python tool called PyLab.

Below is an example of a plot. This plot does not use the same axes that your plots will use; it merely serves as an example of the types of images that the PyLab package produces.



Note to those who did the optional visualization: For problem 5, we make calls to `runSimulation()` to get simulation data and plot it. However, you don't want the visualization getting in the way. If you chose to do the visualization exercise, before you get started on problem 5 (*and* before you submit your code in submission boxes), **make sure to comment the visualization code out of `runSimulation()`**. There should be 3 lines to comment out. If you do not comment these lines, your code will take a REALLY long time to run!!

For the questions below, call the given function with the proper arguments to generate a plot using PyLab.

PROBLEM 5-1A (1 point possible)

Examine **`showPlot1`** in `ps2.py`, which takes in the parameters *title*, *x_label*, and *y_label*. Your job is to examine the code and figure out what the plot produced by the function tells you. Try calling `showPlot1` with appropriate arguments to produce a few plots. Then, answer the following 3 questions.

Which of the following would be the best title for the graph?

- Percentage Of Room That A Robot Cleans
- Time It Takes 1 - 10 Robots To Clean 70% Of A Room
- Percentage Of Room That 1 - 10 Robots Clean
- Time It Takes 1 - 10 Robots To Clean 80% Of A Room
- Time For Robots To Clean Varying Percentages Of A Room

- Area Of Room That 1 - 10 Robots Clean

Final Check | Save | *You have used 0 of 1 submissions*

PROBLEM 5-1B (1 point possible)

Which of the following would be the best x-axis label for the graph?

- Time-steps
- Percentage Cleaned
- Aspect Ratio
- Number of Robots
- Distance Travelled

Final Check | Save | *You have used 0 of 1 submissions*

PROBLEM 5-1C (1 point possible)

Which of the following would be the best y-axis label for the graph?

- Time-steps
- Percentage Cleaned
- Aspect Ratio
- Number of Robots
- Distance Travelled

Final Check | Save | *You have used 0 of 1 submissions*

PROBLEM 5-2A (1 point possible)

Examine **`showPlot2`** in `ps2.py`, which takes in the same parameters as `showPlot1`. Your job is to examine the code and figure out what the plot produced by the function tells you. Try calling `showPlot2` with appropriate arguments to produce a few plots. Then, answer the following 3 questions.

Which of the following would be the best title for the graph?

- Percentage Of Room That A Robot Cleans
- Time It Takes Two Robots To Clean 80% Of Variously Sized Rooms
- Time It Takes Two Robots To Clean 80% Of Variously Shaped Rooms
- Time It Takes 1 - 10 Robots To Clean 80% Of A Room
- Percentage Of Variously Sized Rooms That A Robot Cleans
- Percentage Of Variously Shaped Rooms That A Robot Cleans

Check Save *You have used 0 of 2 submissions*

PROBLEM 5-2B (1 point possible)

Which of the following would be the best x-axis label for the graph?

- Time-steps
- Percentage Cleaned
- Aspect Ratio
- Number of Robots
- Distance Travelled

Final Check Save *You have used 0 of 1 submissions*

PROBLEM 5-3C (1 point possible)

Which of the following would be the best y-axis label for the graph?

- Time-steps
- Percentage Cleaned
- Aspect Ratio
- Number of Robots
- Distance Travelled

Final Check Save *You have used 0 of 1 submissions*

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