

CS 1301 Mini-Homework: Robot Lists

Individual Assignment - Work alone!

Today in recitation you will use your robot's center light sensor (accessed via the `getLight('center')` call) to collect a series of light sensor values and then calculate some statistics about them. Write the following two functions:

1. `getValues`

parameters: numSamples- Integer
return values: a list of light sensor values

This function will accept a single integer argument which indicates how many light values it should capture. It will capture that many light sample values and return them all in a single list. Between each light value capture, your robot should turn left at full speed for 0.25 (one quarter) of a second.

2. `printStatistics`

parameters: numbers – A List of numbers.
return values: None

This function will accept a list of numbers and calculate the following statistics about them: 1) Their mean (average). 2) The smallest number-min. 3) The largest number-max. 4) The number of even numbers. After calculating those 4 results, the function should PRINT a small descriptive paragraph of text that describes the list of numbers it received. The format should be similar to the following: “You gave me a list of 5 numbers. Their average was 3246.42. The largest was 4321, the smallest was -31.5. Only 3 of them were even numbers.”

Show the functions working to your Grading TA before leaving recitation, or at their TA Helpdesk office hours. Be sure to try out using the output of your `getValues()` function as the input to the `printStatistics()` function:

```
printStatistics( getValues() )
```

Grading Rubric:

`getValues`:

Successfully connects to robot, reads sensor values	1 pt
Robot rotates between sensor reads	1 pt
Returns list of sensor values	1 pt

`printStatistics`

Successfully calculates:	
-Min/Max	1 pt
-Average	3 pts
-Count of Evens	2 pts
Correct printout	1 pt