

CS 1301 Recitation Assignment: Robot Lists

Individual Assignment - Work alone!

Today in class 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. 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