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COMP 182
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Project 2 Report

	Size	Minimum	Average	Median	Standard Deviation	Maximum
Stack Robot Traveled	1,000	6,849.1510	60,760.5349	61,516.6224	15,609.1687	100,204.8997
Queue Robot Traveled	1,000	1,278.2001	16,603.2755	16,776.1170	7,695.7291	41,844.3586

Looking over this table, we can observe that both the Stack Robot and the Queue Robots had a size of 1,000 simulation trials. The Stack Robot's distance traveled using the "Last In First Out" method ranged between a minimum of 6,849.1510 and a maximum of 100,204.8997 with an average of 60,760.5349, a median of 61,516.6224, and a standard deviation of 15,609.1687. In contrast, the Queue Robot's distance traveled using the "First In First Out" method ranged between a minimum of 1,278.2001 and a maximum of 41,844.3586 with an average of 16,603.2755, a median of 16,776.1170, and a standard deviation of 7,695.7291. Initially, I supposed that the Stack Robot would perform better because if it became hungry after reaching numerous energy locations then it would return to the most recently detected location whereas the Queue Robot in that situation would return to its first detected energy location. The results in the table proved my assumption true as the Stack Robot was able to travel much further than the Queue Robot before becoming inactive. Due to its greater efficiency, I feel as though stack is the best overall memory structure for robots.