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I confirm that this submission is my own work and is consistent with the Queen's regulations on Academic Integrity.

Checkpoint	Average Number of Rotations
50	26.298
100	24.852
150	22.908
200	20.866
250	18.526
300	16.984
350	15.286
400	13.902
450	12.418
500	11.08

I suspected the number of rotations in the Red-Black Tree (RBT) would increase and gradually stagnate as number of checkpoints/nodes to insert increased, as I thought adding more nodes would increase rotations to satisfy the constraints of RBT. According to the data results, the number of rotations would decrease as the number of checkpoints increased. I believe this may be due overestimating amount of single/double rotations would occur while inserting more nodes, suggesting that less rotations may occur as long branching trees may already solve problems regarding rotations of nodes.

	R<0.5	0.5<=R<0.75	0.75<=R<=1.25	1.25<R<=1.5	R>1.5
20:	0.0	0.0	0.7	0.27	0.03
100:	0.0	0.0	0.576	0.392	0.032
500:	0.0	0.0	0.434	0.552	0.014
2500:	0.0	0.0	0.242	0.742	0.016

I believed that R (the ratio of the depth of Binary Search Tree (BST) over the depth of RBT) would increase as the number of nodes to insert in each tree increased (N). This table demonstrates that R increased as we increased the values of N which supports my hypothesis. The use of RBTs are more efficient in having a smaller depth than BSTs. When N increased, R seemed to increase quite fast, dictating BSTs depth was increasing at a higher rate than RBTs. By this concept, R must increase due to the ratio's changing. This supports the claim that RBTs are in fact more superior to BSTs when comparing their depth as more nodes were inserted.