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ECE 356
Assignment 3 (parts 1 through 4)

Part 1

Two sessions were opened, an editing session, and a viewing session. The results are as follows:

		Viewing session			
		Read uncommitted	Read committed	Repeatable read	Serializable
Editing session	Read uncommitted	Changes appear in both sessions	Changes only appear in the editing session	Changes only appear in the editing session	Changes only appear in the editing session
	Read committed	Changes appear in both sessions	Changes only appear in the editing session	Changes only appear in the editing session	Changes only appear in the editing session
	Repeatable read	Changes appear in both sessions	Changes only appear in the editing session	Changes only appear in the editing session	Changes only appear in the editing session
	Serializable	Changes appear in both sessions	Changes only appear in the editing session	Changes only appear in the editing session	Changes only appear in the editing session

Part 2

You can achieve close to the result, but you can provide checks on the enrollment to make sure that it's above or equal to zero and less than or equal to the class capacity; however, a function is still needed to update the enrollment number of each section and check that it's not being updated with itself, as well as checking quantity is above zero.

Part 3

For primary keys, two types of tests were conducted: with minimum primary keys, and with the maximum allowed number of primary keys. The results are as follows:

	Minimum primary keys trans-action 1 (us)	Minimum primary keys trans-action 2 (us)	Minimum primary keys trans-action 3 (us)	Maximum primary keys trans-action 1 (us)	Maximum primary keys trans-action 2 (us)	Maximum primary keys trans-action 3 (us)
1	9839.804	182389.621	237.476	9550.908	165020.023	461.604
2	9539.528	224619.896	491.353	12013.186	178047.246	879.265
3	9015.444	161136.725	258.587	11162.673	241325.616	461.774
4	10697.840	199981.033	251.809	14641.748	251359.954	734.786
5	10748.815	185370.283	262.316	12569.923	271839.884	308.757
avg	10653,8	191210,6	808	12674,6	222062,6	1205,8
min	9015.444	161136.725	237.476	9550.908	165020.023	308.757
max	10748.815	224619.896	491.353	14641.748	271839.884	879.265

For foreign keys, two types of tests were conducted: with minimum foreign keys, and with the maximum number of foreign keys. The results are as follows:

	Minimum foreign keys trans-action 1 (us)	Minimum foreign keys transaction 2 (us)	Minimum foreign keys trans-action 3 (us)	Maximum foreign keys trans-action 1 (us)	Maximum foreign keys transaction 2 (us)	Maximum foreign keys trans-action 3 (us)
1	9268.934	156641.177	249.221	8836.563	985249.605	295.503
2	11395.898	185050.790	263.276	17041.517	1650046.231	862.104
3	9122.924	158734.928	258.598	9342.492	1153278.108	2993.822
4	9688.705	191700.904	251.955	9914.262	1100242.477	240.873
5	15672.856	259224.996	262.760	13195.860	1210156.968	743.723
avg	11892,4	191028,8	818,6	12204,4	1220272	1631,6
min	9122.924	156641.177	249.221	8836.563	985249.605	240.873
max	15672.856	259224.996	263.276	13195.860	1650046.231	2993.822

For explicit keys, two types of tests were conducted: with minimum explicit keys, and with the maximum number of explicit keys. The results are as follows:

	Minimum explicit keys trans-action 1 (us)	Minimum explicit keys transaction 2 (us)	Minimum explicit keys trans-action 3 (us)	Maximum explicit keys trans-action 1 (us)	Maximum explicit keys transaction 2 (us)	Maximum explicit keys trans-action 3 (us)
1	9950.924	947118.201	242.231	2184.469	154135.093	1405.313
2	9469.405	962620.343	257.162	6981.977	217346.437	355.998
3	12209.286	887535.820	237.672	2385.853	162323.588	368.581
4	10019.258	1254526.563	250.007	2514.410	167394.785	378.366
5	12680.166	1536362.960	258.764	2210.417	335753.290	375.239
avg	11273,2	1118209,6	616	3880	207828,8	1075,6
min	9469.405	887535.820	237.672	2184.469	154135.093	355.998
max	12680.166	1536362.960	258.764	2514.410	335753.290	1405.313

Part 4

1. White wins a 0.4593 fraction of all games.
2. The average number of moves when white wins is 56.5735, and 59.7762 for when black wins.
3. Of all games, a 0.9466 fraction of them start with a pawn move.
4. On average, white makes 4.2313 moves before moving a knight, 7.1957 before a bishop, and 17.6357 before a rook when castling is included.
5. On average, black makes 4.2785 moves before moving a knight, 7.1044 before a bishop, and 17.8067 before a rook when castling is included.