

**GIT Department of Computer Engineering**

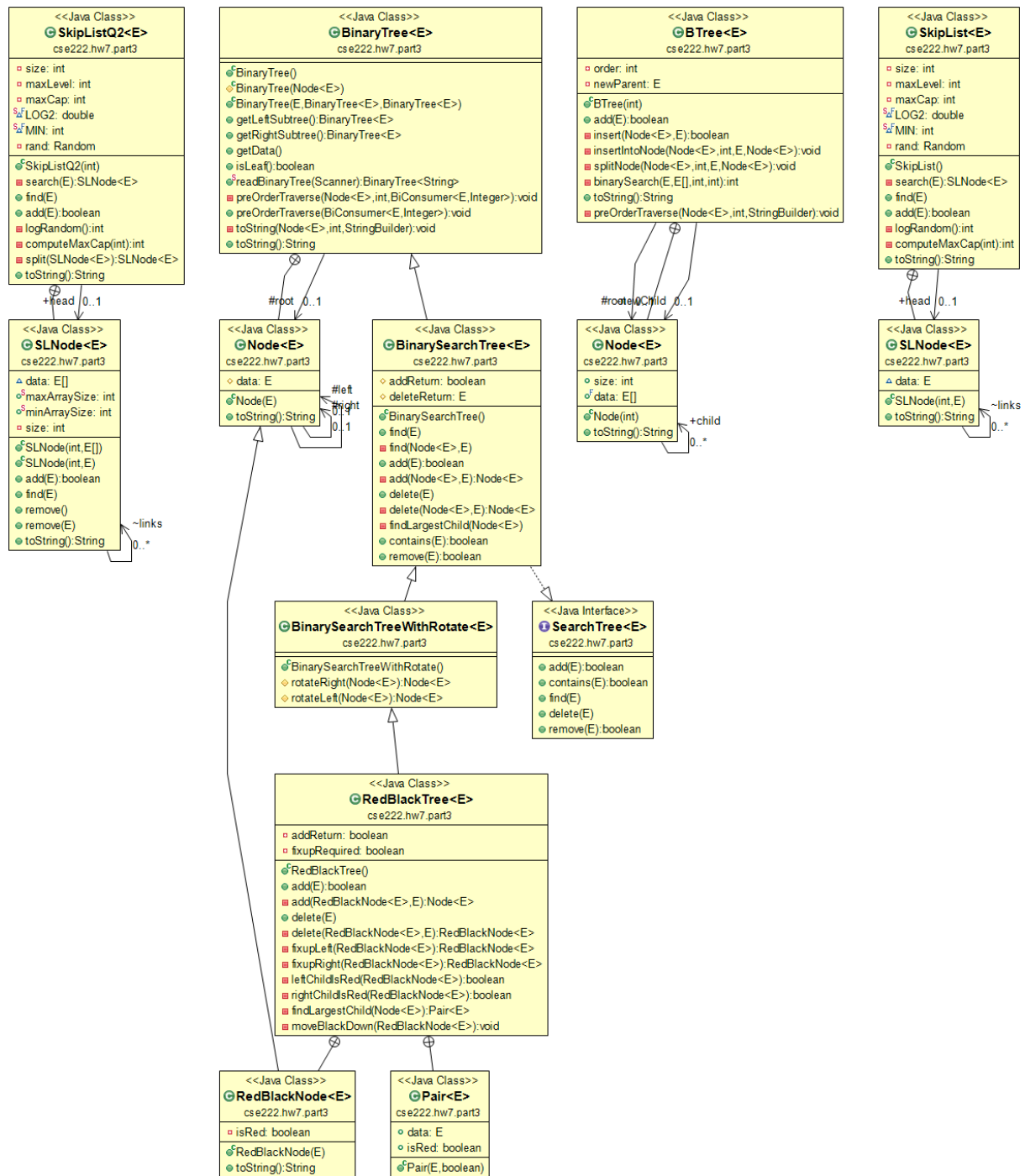
**CSE 222/505 - Spring 2020**

**Homework #7 Part 3 Report**

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# CLASS DIAGRAM



# TEST CASES

TEST ID	Scenario	Test Data	Expected Results	Actual Results	Pass/Fail
TEST01	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Binary Search tree		Successfully Executed	As Expected	Pass
TEST02	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Red Black tree in Book		Successfully Executed	As Expected	Pass
TEST03	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Red Black tree in java		Successfully Executed	As Expected	Pass
TEST04	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Skip List in Book		Successfully Executed	As Expected	Pass
TEST05	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Skip List in Q2		Successfully Executed	As Expected	Pass
TEST06	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 Skip List in java		Successfully Executed	As Expected	Pass
TEST07	Testing 10 times, insert 10 random element to randomly inserted 10000, 20000, 30000, 40000 BTree in book		Successfully Executed	As Expected	Pass

## RUNNING AND RESULTS

### TEST01

	Binary Search tree				
	10000	20000	40000	80000	
1	16400	5001	17800	15700	
2	4700	4300	44900	28200	
3	3900	4200	31201	6901	
4	4900	10301	3100	6200	
5	2400	2499	44201	4499	
6	2600	2900	6800	5200	
7	5000	8000	6600	4300	
8	34900	2200	9501	3400	
9	4400	2400	5700	3300	
10	6200	2099	2300	12800	
avarage	8540	4390	17210,3	9050	

### TEST02

	Red Black tree in Book			
	10000	20000	40000	80000
1	11600	9699	4701	35499
2	19200	7200	19901	19900
3	11500	5101	35200	10700
4	10000	11400	36300	39900
5	7200	2700	5900	25101
6	3400	2900	3601	4500
7	13900	4200	3700	4899
8	2600	32700	6599	4500
9	2500	2800	3499	4400
10	3000	3200	3200	10000
avarage	8490	8190	12260,1	15939,9

## TEST03

	Red Black tree in java			
	10000	20000	40000	80000
1	6600	8701	9000	52999
2	9000	8300	54800	33000
3	8100	19501	27200	29700
4	9000	23101	26500	7399
5	6700	9700	3400	4300
6	11900	4800	11399	6000
7	51500	37800	38599	6900
8	3200	23900	3600	3701
9	7400	7500	7300	11899
10	3300	14000	14300	7599
avarage	11670	15730,3	19609,8	16349,7

## TEST04

	Skip List in Book			
	10000	20000	40000	80000
1	11300	23900	9100	43300
2	17300	20900	24100	30400
3	10700	19200	81801	6401
4	45700	34301	5900	7900
5	15300	7001	24099	6499
6	9900	26701	11301	6601
7	118300	18101	7999	13500
8	3500	6799	6600	6200
9	3900	10400	8000	6900
10	5000	22700	9500	6501
avarage	24090	19000,3	18840	13420,2

## TEST05

	Skip List in Q2			
	10000	20000	40000	80000
1	54500	23200	15399	29400
2	11000	7100	38300	64201
3	10700	11000	25201	25800
4	12000	70601	12399	26200
5	7300	4600	7801	27700
6	8600	4300	36100	11200
7	8400	14500	59400	14000
8	37400	18600	7100	6499
9	4600	16099	7500	7400
10	15400	5899	111400	22400
avarage	16990	17589,9	32060	23480

## TEST06

	Skip List in java			
	10000	20000	40000	80000
1	12600	17800	8701	20900
2	47200	23301	35900	32399
3	12500	9700	8200	22201
4	14000	5500	4300	4100
5	14300	47700	10300	4800
6	7500	7500	84700	5301
7	35100	18101	9399	8901
8	10400	3701	5999	4500
9	25700	8300	5399	21400
10	7600	3600	8000	4101
avarage	18690	14520,3	18089,8	12860,3

## TEST07

	BTree in book			
	10000	20000	40000	80000
1	7600	12301	19899	27099
2	7900	7000	98699	9799
3	12600	8500	5300	4700
4	8800	40100	9901	37100
5	10000	10100	11099	4900
6	14600	7899	49801	31300
7	776700	7500	27200	15300
8	7400	11000	4300	6001
9	5400	17501	17501	3300
10	18900	11599	64299	5700
avarage	86990	13350	30799,9	14519,9

