OKAGBUE ONYEKA FRANCIS
CMPT 317
ONO206
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tiles1.txt

	Step Limit					
	200 steps		1000 steps		5000 steps	
Strategy	Score	Time	Score	Time	Score	Time
Random Guessing	3	1.74	2	7.70	2	37.08
Random Search	13	0.05	8	0.12	17	1.08
Hill-climbing	8	0.003	15	0.005	7	0.004
Hill-climbing, Long Restarts	12	0.015	7	0.09	3	0.49
Hill-climbing, Frequent Restarts	7	0.07	3	0.41	2	2.16

tiles2.txt

	Step Limit					
	200 steps		1000 steps		5000 steps	
Strategy	Score	Time	Score	Time	Score	Time
Random Guessing	9	4.47	8	21.25	8	109.84
Random Search	18	0.12	22	0.53	19	2.45
Hill-climbing	17	0.03	18	0.01	20	0.02
Hill-climbing, Long Restarts	14	0.05	10	0.30	9	1.16
Hill-climbing, Frequent Restarts	15	0.27	10	1.38	8	5.53

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tiles3.txt

| | Step Limit | | | | | |
| | 200 steps | | 1000 steps | | 5000 steps | |
Strategy	Score	Time	Score	Time	Score	Time
Random Guessing	36	22.92	32	112.71	29	524.12
Random Search	41	0.29	52	1.02	57	4.62
Hill-climbing	61	0.14	44	0.17	47	0.21
Hill-climbing, Long Restarts	43	0.49	39	1.48	35	5.81
Hill-climbing, Frequent Restarts	45	1.54	41	5.95	31	28.26

Based on this data provided from the Block Tiling data, Hill-climbing provided the best algorithm here with the highest score been 61 and the time been 0.14 for the tiles3.txt. But for the rest blocks txt, the hill-climbing has the best solution because it finds the highest score in the shortest amount of time compared to the rest algorithm that took longer. Here, the hill-climbing has the highest score in about two out of the three tables, and it also took the lowest time in processing the data for this block tile problem. And based on this table, it can be observed that the Hill-climbing and with both long restarts and frequent restarts performed better than the random guessing and random search in almost all the files provided. And it shows that the neighborhood for the Block Tiling problem is best for the Him-climbing solution here and it can find better solutions. And it also shows that the Random Search has a better solution than the Random guessing. The random search has the highest score and finds the solution with lesser time and is more optimal here. so, for the tiles3.txt here, I would say the Search Tree method from Chapter 3 from the textbook would have performed better in this scenario most especially with how Random Guessing and Random Search has a worst performance here and that is because the search tree would consider the various possible action sequences in this problem, The possible action sequences that starts from the initial state would form the search tree and the branches would be the action and the initial state would be the root and the nodes would correspond to the states in the state space of the problem. An example would be the Romanian map from Arad to Bucharest. And it would perform better because it would start by testing the goal state and then by taking various

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actions. The search problem would perform good because it would keep expanding the nodes frontier until either the solution is found or there are no states to expand "search strategy".