Assignment 2

Runar Fosse

Instance: Call_7_Vehicle_3				
Average objective Best objective Improvement (%) Running time				
Random Search	1410480.20	1134176.00	65.022906 %	$1.646 \mathrm{\ s}$
Best solution: [4, 4, 2, 2, 0, 7, 7, 0, 1, 5, 5, 3, 3, 1, 0, 6, 6]				

Instance: Call_18_Vehicle_5					
Average objective Best objective Improvement (%) Running time					
Random Search	5823937.20	4813395.00	46.277767 %	0.992 s	
Best solution: [15, 1, 15, 12, 1, 12, 0, 9, 5, 5, 9, 13, 13, 0, 8, 18, 18, 8, 0, 17, 17, 0, 10, 10, 0,					
2, 2, 3, 3, 4, 4, 6, 6, 7, 7, 11, 11, 14, 14, 16, 16					

Instance: Call_35_Vehicle_7				
	Average objective	Best objective	Improvement (%)	Running time
Random Search	17986369.00	14373301.00	21.832494 %	1.208 s
Best solution: [12, 12, 27, 27, 0, 32, 32, 0, 9, 9, 31, 31, 0, 5, 5, 0, 25, 25, 0, 11, 18, 11, 18, 0,				
1, 1, 0, 2, 2, 3, 3, 4, 4, 6, 6, 7, 7, 8, 8, 10, 10, 13, 13, 14, 14, 15, 15, 16, 16, 17, 17, 19, 19,				
$20,\ 20,\ 21,\ 21,\ 22,\ 22,\ 23,\ 23,\ 24,\ 24,\ 26,\ 26,\ 28,\ 28,\ 29,\ 29,\ 30,\ 30,\ 33,\ 33,\ 34,\ 34,\ 35,\ 35]$				

Instance: Call_80_Vehicle_20					
	Average objective	Best objective	Improvement (%)	Running time	
Random Search	46770347.00	46770347.00	0.000000 %	2.235 s	
Best solv	ution: $[0, 0, 0, 0, 0, 0]$, 0, 0, 0, 0, 0, 0, 0, 0, 0,	0, 0, 0, 0, 0, 0, 1, 1,	2, 2, 3, 3, 4, 4, 5, 5,	
6, 6, 7,	6, 6, 7, 7, 8, 8, 9, 9, 10, 10, 11, 11, 12, 12, 13, 13, 14, 14, 15, 15, 16, 16, 17, 17, 18, 18, 19,				
19, 20, 2	20, 21, 21, 22, 22, 23,	23,24,24,25,25,26	, 26, 27, 27, 28, 28, 29	9, 29, 30, 30, 31, 31,	
32, 32, 3	3, 33, 34, 34, 35, 35,	36, 36, 37, 37, 38, 38	, 39, 39, 40, 40, 41, 41	1, 42, 42, 43, 43, 44,	
44, 45, 4	5, 46, 46, 47, 47, 48,	48, 49, 49, 50, 50, 51	, 51, 52, 52, 53, 53, 54	4, 54, 55, 55, 56, 56,	
57, 57, 5	8, 58, 59, 59, 60, 60,	61, 61, 62, 62, 63, 63	, 64, 64, 65, 65, 66, 66	6, 67, 67, 68, 68, 69,	
69, 70, 7	70, 71, 71, 72, 72, 73,	$73,\ 74,\ 74,\ 75,\ 75,\ 76$, 76, 77, 77, 78, 78, 78	9, 79, 80, 80]	

Instance: Call_130_Vehicle_40					
	Average objective	Best objective	Improvement (%)	Running time	
Random Search	76627567.00	76627567.00	0.000000 %	3.671 s	
Best solu	ution: [0, 0, 0, 0, 0, 0	, 0, 0, 0, 0, 0, 0, 0, 0,	0, 0, 0, 0, 0, 0, 0, 0,	0, 0, 0, 0, 0, 0, 0, 0,	
0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0, 1, 1	1, 2, 2, 3, 3, 4, 4, 5, 5	5, 6, 6, 7, 7, 8, 8, 9, 9	, 10, 10, 11, 11, 12,	
12, 13, 1	3, 14, 14, 15, 15, 16,	16,17,17,18,18,19	, 19, 20, 20, 21, 21, 22	2, 22, 23, 23, 24, 24,	
25, 25, 2	26, 26, 27, 27, 28, 28,	29, 29, 30, 30, 31, 31,	32, 32, 33, 33, 34, 34	4, 35, 35, 36, 36, 37,	
37, 38, 3	38, 39, 39, 40, 40, 41,	41, 42, 42, 43, 43, 44,	44, 45, 45, 46, 46, 47	7, 47, 48, 48, 49, 49,	
50, 50, 5	51, 51, 52, 52, 53, 53,	54, 54, 55, 55, 56, 56,	, 57, 57, 58, 58, 59, 59	9, 60, 60, 61, 61, 62,	
1 '	62, 63, 63, 64, 64, 65, 65, 66, 66, 67, 67, 68, 68, 69, 69, 70, 70, 71, 71, 72, 72, 73, 73, 74, 74,				
75, 75, 76, 76, 77, 77, 78, 78, 79, 79, 80, 80, 81, 81, 82, 82, 83, 83, 84, 84, 85, 85, 86, 86, 87,					
87, 88, 88, 89, 89, 90, 90, 91, 91, 92, 92, 93, 93, 94, 94, 95, 95, 96, 96, 97, 97, 98, 98, 99, 99,					
100, 100, 101, 101, 102, 102, 103, 103, 104, 104, 105, 105, 106, 106, 107, 107, 108, 108, 109,					
1			4, 115, 115, 116, 116,		
119, 119, 120, 120, 121, 121, 122, 122, 123, 123, 124, 124, 125, 125, 126, 126, 127, 127, 128,					
128, 129	, 129, 130, 130]				

Instance: Call_300_Vehicle_90					
	Average objective	Best objective	Improvement (%)	Running time	
Random Search	170784643.00	170784643.00	0.000000 %	8.944 s	
Best solu	ition: [0, 0, 0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0, 0,	0, 0, 0, 0, 0, 0, 0, 0,	
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0					
0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	0, 0, 0, 0, 1, 1, 2, 2,	3, 3, 4, 4, 5, 5, 6, 6,	
7, 7, 8, 8	, 9, 9, 10, 10, 11, 11,	12, 12, 13, 13, 14, 14	, 15, 15, 16, 16, 17, 1	7, 18, 18, 19, 19, 20,	
20, 21, 2	1, 22, 22, 23, 23, 24,	24,25,25,26,26,27	, 27, 28, 28, 29, 29, 30	0, 30, 31, 31, 32, 32,	
33, 33, 3	4, 34, 35, 35, 36, 36,	37,37,38,38,39,39	, 40, 40, 41, 41, 42, 42	2, 43, 43, 44, 44, 45,	
45, 46, 4	6, 47, 47, 48, 48, 49,	49,50,50,51,51,52	, 52, 53, 53, 54, 54, 55	5, 55, 56, 56, 57, 57,	
58, 58, 5	9, 59, 60, 60, 61, 61,	62, 62, 63, 63, 64, 64	, 65, 65, 66, 66, 67, 67	7, 68, 68, 69, 69, 70,	
			, 77, 78, 78, 79, 79, 80		
1 ' '			, 90, 90, 91, 91, 92, 92		
1 ' '			01, 102, 102, 103, 103,		
			11, 111, 112, 112, 113,		
			20, 121, 121, 122, 122		
1			30, 130, 131, 131, 132	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	
			39, 140, 140, 141, 141,		
1			19, 149, 150, 150, 151, 150, 150, 150, 150, 150	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	
			58, 159, 159, 160, 160,		
1			88, 168, 169, 169, 170, 170, 170, 170, 170, 170, 170, 170		
			77, 178, 178, 179, 179, 179, 189, 189, 189, 189, 189, 189, 189, 18		
			87, 187, 188, 188, 189		
1			96, 197, 197, 198, 198,	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	
			206, 206, 207, 207, 208, 216, 216, 216, 217, 217, 217, 217, 217, 217, 217, 217		
· · · · · · · · · · · · · · · · · · ·			25, 225, 226, 226, 227, 217, 217, 217, 217, 217, 217, 217	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	
			34, 235, 235, 236, 236		
			14, 244, 245, 245, 246		
			53, 254, 254, 255, 255, 255		
1			63, 263, 264, 264, 265		
			72, 273, 273, 274, 274		
			82, 282, 283, 283, 284		
· · · · · · · · · · · · · · · · · · ·			01, 292, 292, 293, 293	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	
	, 297, 297, 298, 298,				