Algorithmics	Student information	Date	Number of session
	UO: 271580	26/04	7
	Surname: Lopez Amado		
	Name: Pablo		

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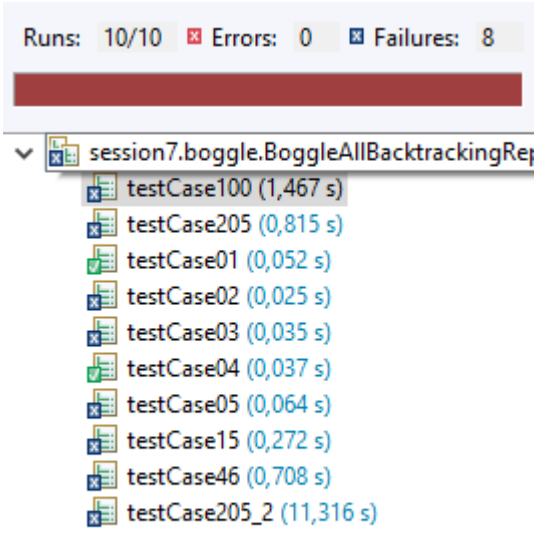
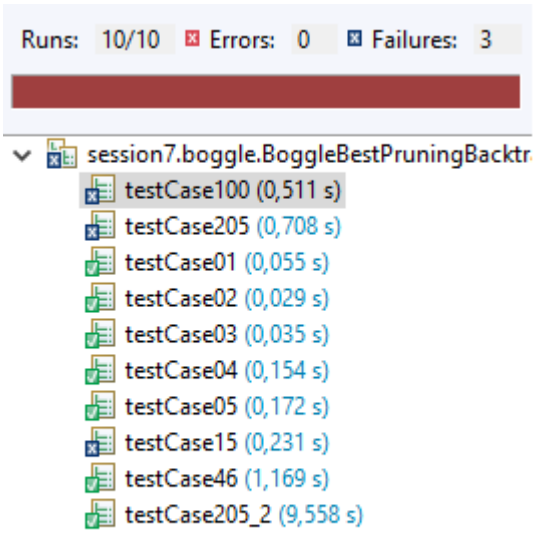
Activity 1. Test cases

All backtracking:



With my implementation not all tests get the same solutions as expected for your tests. I do not know exactly why sometimes it gets different amount of solutions, other times the same amount but different and other times just different punctuation. I suppose we use different approaches and that is the reason and after a long time trying to change things to get results like the tests I desisted.

Best pruning backtracking:



In this set I got nearly all like it was expected but same reasoning as before. I suppose different approaches make different solutions in this swampy exercise.

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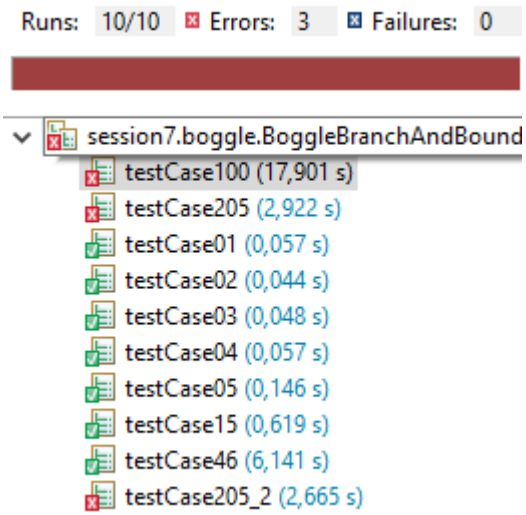
Best pruning Branch and bound:



In this set of tests I copied the test cases of the previous approach and adapted to the new requirements. I manage to get almost all correct and the ones that appear as error is because they are so long that the heap got full and therefore they could not keep working.

Activity 2. Times for different executions

	Words:	1
	Cell:	1
Size	Backtracking	BranchAndBound
1	0	0
2	1	4
4	25	66
8	32	141
16	76	293
32	445	1649
64	603	HEAP FULL

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Activity 3. Times for different executions (I)

	Words:	100
	Cell:	1
Size	Backtracking	BranchAndBound
1	1	1
2	2	10
4	27	84
8	37	172
16	182	685
32	541	2059
64	1105	HEAP FULL

Activity 4. Times for different executions (II)

	Words:	1
	Cell:	3
Size	Backtracking	BranchAndBound
1	0	1
2	6	6
4	21	55
8	99	253
16	190	794
32	813	3024
64	1242	HEAP FULL

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Activity 5. Times for different executions (III)

	Words:	15
	Cell:	5
Size	Backtracking	BranchAndBound
1	0	0
2	1	6
4	200	88
8	266	275
16	577	7194
32	4058	11869
64	8333	HEAP FULL

As it can be seen, times are faster with backtracking than with branch and bound at every execution scenario. I can suppose that as in branch and bound I need to create a new node and pass all the information from the current one for it to work, that creates overhead and makes it slower. And also the creation of nodes that are not a solution while in backtracking I just prune which makes the operations faster.