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\* Title: Heaps & AVL Trees

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\* Assignment: 3

\* Description: Answers to question 2

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• Do your findings related to average number of rotations in the AVL tree agree with theoretical results?

No, my results do not agree with theoretical results. Theoretically, the number of rotations in ascending and descending cases should be the same because AVL tree is a balanced tree and therefore ascending and descending cases are symmetrical. However, when I run my program, number of rotations in descending case is bigger than number of rotations in ascending case. I expect that this occurs because of experimental errors.

• Do different patterns of insertion affect the number of rotations in the AVL tree? If so, explain how. If not, explain why not.

Yes, different patterns of insertion affects the number of rotations in the AVL tree. In ascending and descending cases, the rotations will be symmetrical hence there will be no change on the number of rotations. However, in the case of random numbers, rotations will not be symmetrical like the previous ones hence changes will occur on the number of rotations.