

## Homework 5 Part A

**Assigned on:** Monday, October 7<sup>th</sup>, 2019.

**Due:** Monday, October 14<sup>th</sup>, 2019.

This homework comes in two parts. This is Part A, which includes:

1. A regular ‘exercise’ on AI games over adversarial search.
2. Problems on adversarial search and alpha-beta pruning that were omitted from Homework 4 that have now been covered during lecture

Part B of this assignment will cover programming various search algorithms using Common Lisp. While Part B has a later deadline than Part A, we strongly urge you to get an early start programming (in other words, don’t just wait until after the deadline for Part A to begin Part B). Please submit your answers to Part A via handin or in class

As always, please do not hesitate to seek help during recitation and office hours.

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## Contents

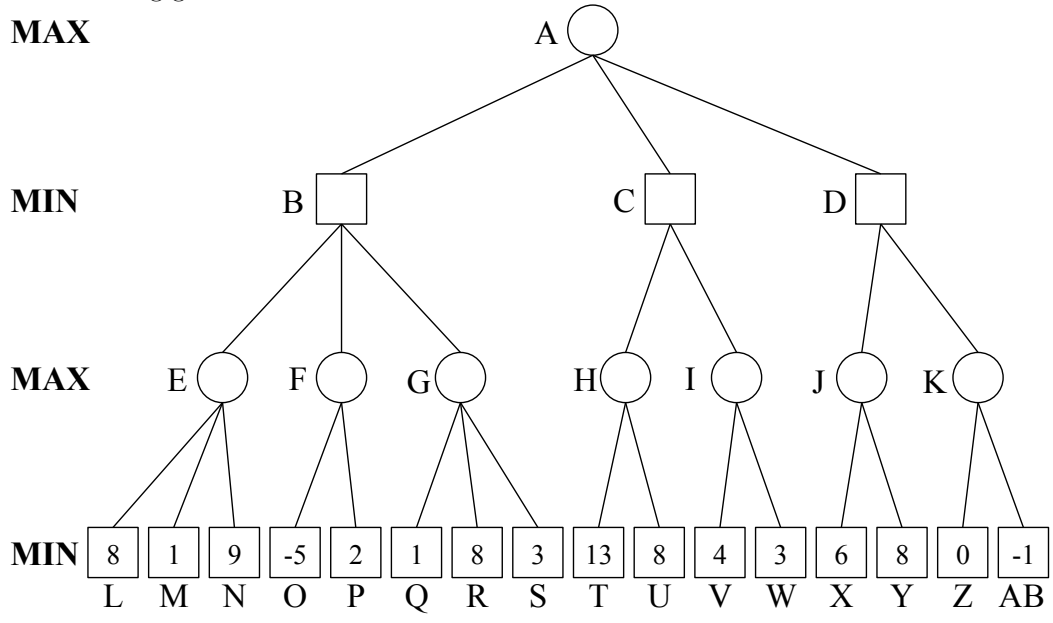
<b>1</b>	<b>AIMA, Exercise 5.8, Page 197 (Total 10 points)</b>	<b>2</b>
<b>2</b>	<b>Minimax (5 points)</b>	<b>2</b>
<b>3</b>	<b>Alpha-beta Pruning (5 points)</b>	<b>3</b>

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1 AIMA, Exercise 5.8, Page 197 (Total 10 points)

2 Minimax (5 points)

Consider the following game tree:



1. Compute the minimax decision. Show your answer by writing the values at the appropriate nodes in the above tree. 4 points

2. What move should Max choose? 1 point

### 3 Alpha-beta Pruning (5 points)

Using the *alpha-beta pruning method*, with standard left-to-right evaluation of nodes, show what nodes are *not* examined by alpha-beta.

