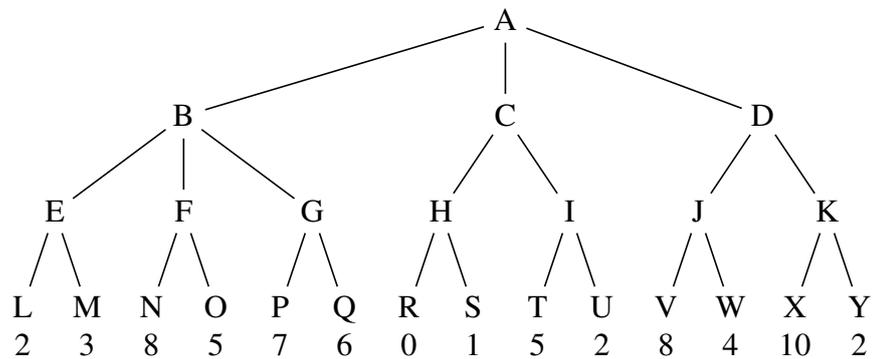


2001 Paper 9 Question 8

Artificial Intelligence

- (a) Why does search in game-playing programs always proceed forward from the current position rather than backward from the goal? [5 marks]
- (b) Most game-playing programs do not save search results from one move to the next. Instead, they usually start completely afresh whenever it is the machine's turn to move. Why? [5 marks]
- (c) Consider the following game tree, and assume that the first player is the maximising player:



- (i) Which move should the first player choose? [3 marks]
- (ii) Assuming that nodes are searched left-to-right using the alpha-beta algorithm, which nodes would not be examined? [7 marks]