CS347 FS2003 Quiz 4

This is a closed-book quiz. The only item not supplied that you are allowed (and required) to use, is a pen or pencil. Mark all paper you use with your name, the date, and the string “cs347fs2003 quiz4”. If you are caught cheating, you will receive a zero grade for this quiz. The max number of points per question is indicated in square brackets after each question. The sum of the max points is 100. You have exactly 25 minutes to complete this quiz. Good luck!

All the questions are about the following adversarial search tree which describes part of the full search tree (which might belong to some imaginary game). State evaluation heuristic values for the max player are provided in the form of numbers following the letter labels of the states (e.g., B3 indicates that the heuristic value of state B for the max player is 3). The order in which successors are generated is from left to right. Example: A generates first B, then C, and finally D. Follow all the “good-practice” guidelines you were given in class and in the sample quiz; not doing so will cost you points!

2. What is the Principal Variant (PV) found by DLM(A,2)? [5]
3. Give the execution trace of Depth-Limited Minimax employing Alpha-Beta pruning with depth-limit=4 and root-node=A (ABDLM(A,4,−∞,∞)). [40]
4. Which nodes, if any, are pruned by ABDLM(A,4,−∞,∞)? [10]
5. What is the PV found by ABDLM(A,4,−∞,∞)? [10]
6. Would DLM(A,4) have found the same PV as ABDLM(A,4,−∞,∞)? [5]