Quiz 1

Introduction to AI and Problem Solving via Search

All Questions are compulsory

* Required

Enter your Name and Roll Number *

Your answer

The first test proposed to evaluate artificial intelligence was * 1 point

- ◯ McCarthy test
- ◯ Reasoning test
- ◯ Turing test
- ◯ Theorem test

The traditional AI was focused on * 1 point

- ◯ Inference
- ◯ Probability
- ◯ Statistics
- ◯ Model building

A rational agent is the one * 1 point

- who acts optimally to solve a problem
- who acts to achieve best solution of a problem
- who acts and adapts to solve a problem
- who acts to find goals for a problem

The complete history of everything that an agent has perceived is known as * 1 point

- percept knowledge
- percept base
- percept brain
- percept sequence

An assembly line is the example of * 1 point

- Episodic environment
- Deterministic environment
- Partially observable environment
- Sequenctial environment

Which of the following AI agent conquered the game of chess * 1 point

- Deepblue
- Deepmind
- Deepgreen
- Deeplearner

Amalgamation of human psychology with AI is called * 1 point

- Deeplearning
- Cognitive science
- Brain modeling
- Neural computation

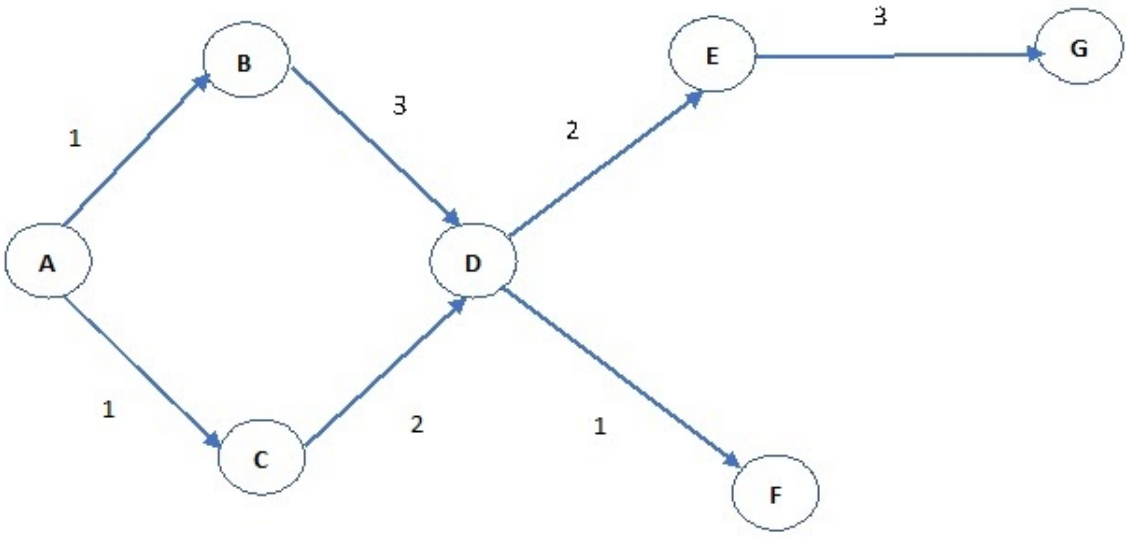
Suppose in an iterative deepening search (IDS), in place of increasing the depth by 1 at each step, the depth is increased by 3 at each step then the resultant algorithm will be * 1 point

- Optimal and complete
- Optimal but not complete
- Complete but not optimal
- Same performance as original IDS

Suppose there is only single goal state and the cost at each step is c (c > 0), then which of the following algorithm can be used to solve the problem for a given initial state s * 1 point

- Depth first search
- Breadth first search
- Uniform cost search
- Iterative deepening search

For the given directed graph, find the sequence of nodes explored using uniform cost algorithm from state A to state G. The number on the edges represent cost, * 2 points



- ABDEG
- Option 2
- ABCDDFEG
- ABCDDFEFEG

For two given heuristics h1 and h2, which one of the following is not admissible? * 1 point

- max(h1, h2)
- min(h1, h2)
- (h1+h2)/2
- All are admissible

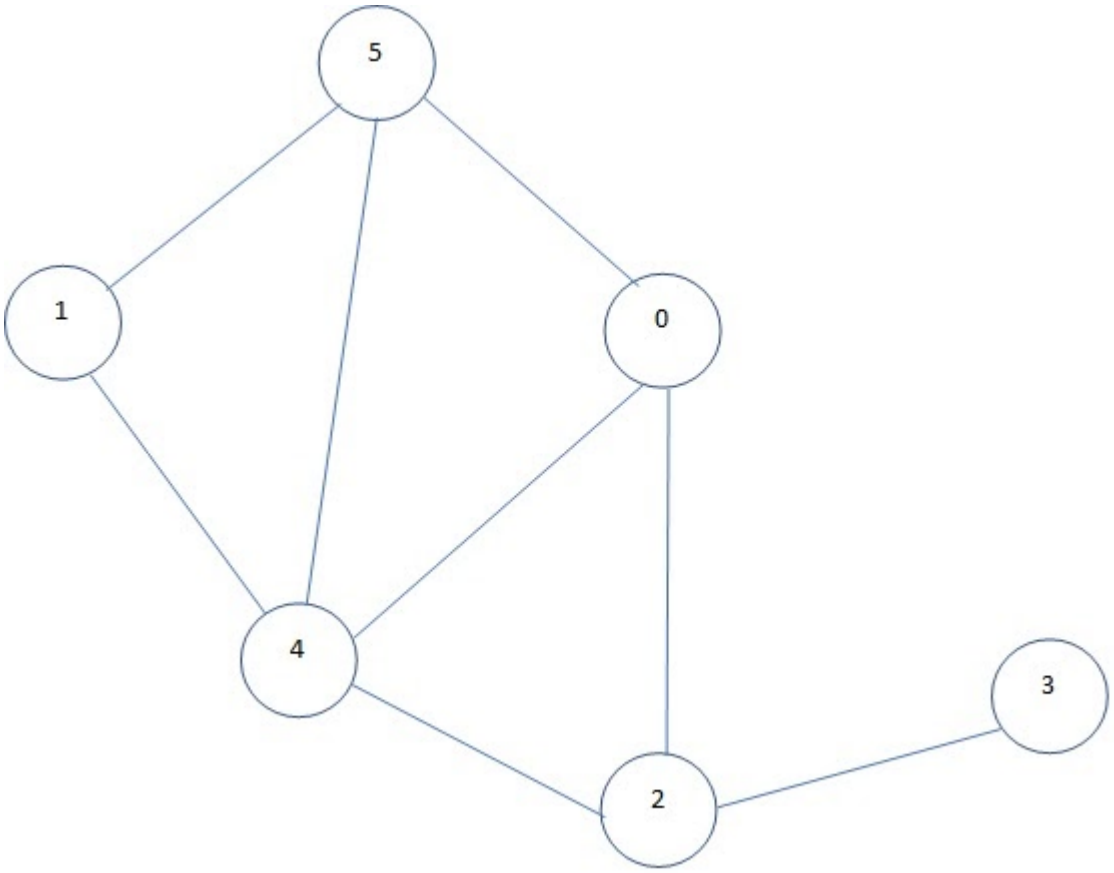
Suppose you know that the value of a particular state in MiniMax tree lies between x and y (x < y). How can you use this information to optimize alpha-beta pruning * 1 point

- α=x , β=y
- α=y, β=x
- Mark value of all states as (x+y)/2
- This information cannot be used

There is a perfect evaluation function available at each node such that there is no search required in Minimax algorithm * 1 point

- True
- False

You are given the following constraint graph and your task is to assign the value to each variable. A wise person comes to help you to give you value of a variable. Which variable will you choose? * 1 point

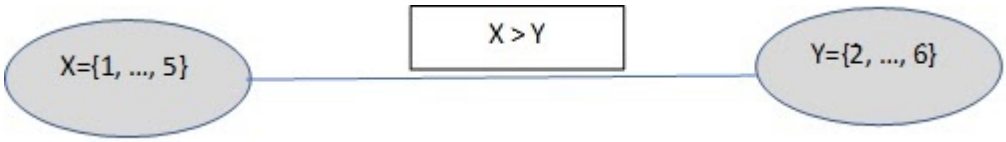


- ○ 5
- ○ 2
- ○ 0
- ○ 4

What is the worst case complexity of CSP with n variables where each variable can take d values? * 1 point

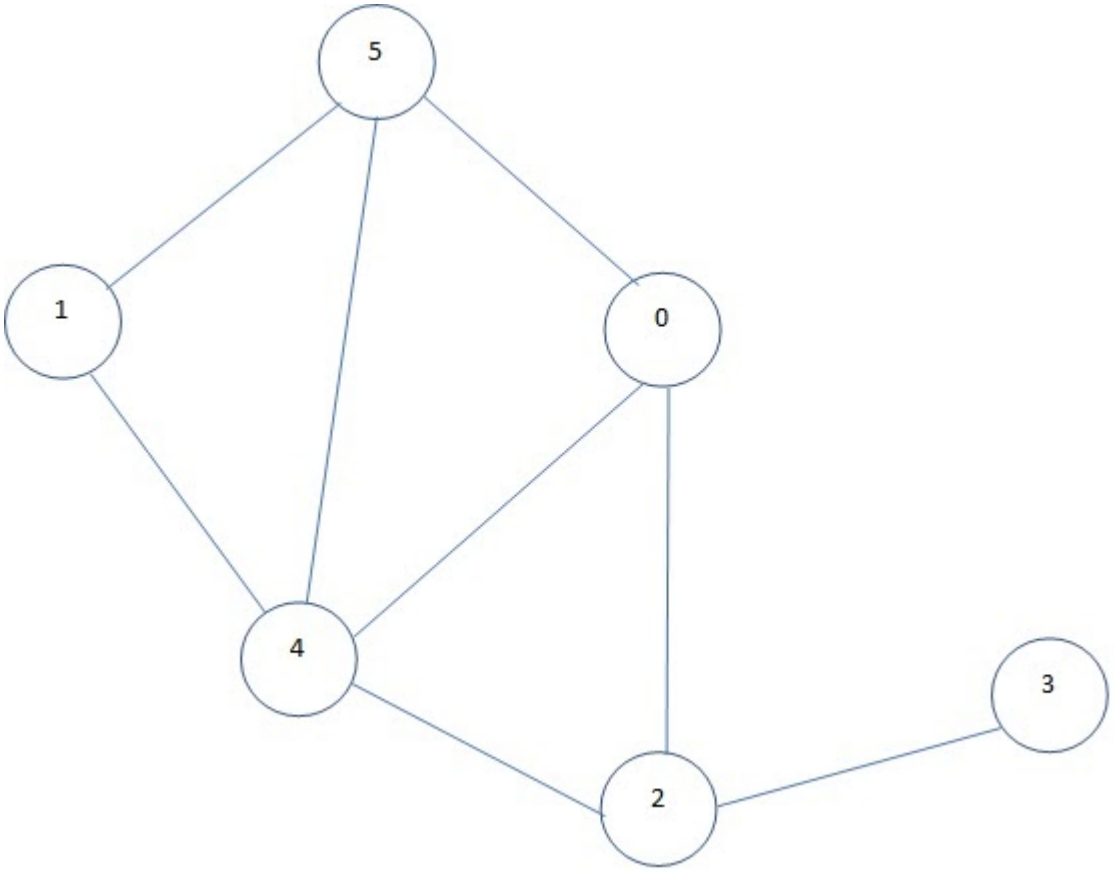
- O(nd)
- O(n)
- O(n^2 d)
- O(d^n)

For the following CSP, which of the following statement is true? * 1 point



- The arc is consistent in both direction
- The arc is not consistent in both direction
- The arc (x,y) is consistent but arc (y,x) is not
- The arc(y,x) is consistent but arc (x,y) not

For the following constraint graph, you need to solve the CSP using minimum remaining value heuristic. Each node can take the value from the set { a, b, c} and nodes connected by an edge needs to have different values. For node tie breaking, a small numbered node is preferred over high numbered node. For the value tie breaking, a is assigned before b and c, b is assigned before c. [Note you can write your answers as, for example, 0=a, 1=a and so on in the given space.] * 3 points



Your answer

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