Assignment 6

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1) An algorithm searching for a solution to a CSP on a ordered set of variables \(\{x_1, x_2, \ldots, x_k\}\) reaches deadend at variable \(x_l\). This deadend is an leaf deadend if -

- The domain \(D_l\) of \(x_l\) has at least one more value left.
- In the previous round it tried a value for the variable \(x_k\) and succeeded.
- In the previous round it tried a value for the variable \(x_k\) and failed.
- In the previous round it tried a value for the variable \(x_k\) and failed.

No, the answer is incorrect.

Score: 0

Accepted Answers:

2) An algorithm searching for a solution to a CSP on a ordered set of variables \(\{x_1, x_2, \ldots, x_k\}\) reaches deadend at variable \(x_l\). This deadend is an internal deadend if -

- The domain \(D_l\) of \(x_l\) has at least one more value left.
- In the previous round it tried a value for the variable \(x_k\) and succeeded.
- In the previous round it tried a value for the variable \(x_k\) and failed.
- In the previous round it tried a value for the variable \(x_k\) and failed.

No, the answer is incorrect.

Score: 0

Accepted Answers:

3) The induced parent of an internal deadend in Graph Based Backjumping

- is the parent of the deadend being considered.
- is the earliest node that is the parent of the deadend being considered.
- is the earliest induced ancestor of the node that is earlier that the current deadend.
- is the latest induced ancestor of the node that is earlier that the current deadend.

No, the answer is incorrect.

Score: 0

Accepted Answers:

4) Based on the data given in the question 4, answer the following
The graph below represents a map colouring problem. The regions or nodes are \{A,B,C,D,E,F,G\} and have an ordering \{A,B,C,D,E,F,G\} which is the lexical ordering. The domains are \(D_A = \{\text{red, blue}\}\), \(D_B = \{\text{green, yellow}\}\), \(D_C = \{\text{blue}\}\), \(D_D = \{\text{red, green}\}\), \(D_E = \{\text{green, yellow}\}\), \(D_F = \{\text{blue, green}\}\), \(D_G = \{\text{red, blue}\}\). The search algorithms try the colours in the order given in the domain. The regions which are adjacent are \{A, B\}, \{A, E\}, \{A, G\}, \{C, D\}, \{C, G\}, \{D, G\}, \{E, F\}, and \{E, G\}. Each pair of regions that is adjacent must have different colours.

The first deadend encountered by algorithm Backtracking is _______.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) G

1 point

5) The next node the algorithm Backtracking tries to assign a value is _______.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) F

1 point

6) After attempting the above node, the next node that Backtracking tries to assign a value is _______.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) G

1 point

7) Backtracking is able to assign a value to the node in the preceding question.

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

1 point

Gaschnig’s Backjumping

8) The first deadend encountered by algorithm Gaschnig’s Backjumping is _______.

No, the answer is incorrect.
Score: 0
9) The next node the algorithm Gaschnig’s Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) G

10) After attempting the above node, the next node that Gaschnig’s Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) C

11) Gaschnig’s Backjumping is able to assign a value to the node in the preceding question.

True
False

No, the answer is incorrect.
Score: 0
Accepted Answers: True

Graph Based Backjumping

12) The first deadend encountered by algorithm Graph Based Backjumping is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) G

13) The next node the algorithm Graph Based Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) E

14) After attempting the above node, the next node that Graph Based Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) F

15) Graph Based Backjumping is able to assign a value to the node in the preceding question.

True
False
16) After attempting the above node, the next node that Graph Based Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
True

17) Graph Based Backjumping is able to assign a value to the node in the preceding question.

No, the answer is incorrect.
Score: 0
Accepted Answers:
True
False

18) After attempting the above node, the next node that Graph Based Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) G

19) Graph Based Backjumping is able to assign a value to the node in the preceding question.

No, the answer is incorrect.
Score: 0
Accepted Answers:
True
False

20) After attempting the above node, the next node that Graph Based Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) E

21) Graph Based Backjumping is able to assign a value to the node in the preceding question.

No, the answer is incorrect.
Score: 0
Accepted Answers:
True
False

Conflict Directed Backjumping

22) The first deadend encountered by algorithm Conflict Directed Backjumping is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
True
23) The next node the algorithm Conflict Directed Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
( Type: String ) C

24) After attempting the above node, the next node that Conflict Directed Backjumping tries to assign a value is _______.

No, the answer is incorrect.
Score: 0
Accepted Answers:
( Type: String ) A

25) Conflict Directed Backjumping is able to assign a value to the node in the preceding question.

- True
- False

No, the answer is incorrect.
Score: 0
Accepted Answers:
True

26) Learning algorithms employed while solving CSPs

- learn which algorithm is suitable for each kind of constraint graph.
- are designed to improve future runs of the CSP solver.
- are designed to increase pruning during the current run.
- is meaningful only while solving large problems.
- none of the above.

No, the answer is incorrect.
Score: 0
Accepted Answers:
- are designed to increase pruning during the current run.
- is meaningful only while solving large problems.

27) Learning in algorithms used to solve CSPs are designed to learn

- partial solutions.
- partial assignments that cannot be extended.
- partial assignments that are not part of any solution.
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
- partial assignments that are not part of any solution.

28) While learning during solving CSPs

- smaller nogoods are preferred to larger nogoods.
- larger nogoods are preferred to smaller nogoods.
- it is harder to learn smaller no goods
- it is harder to learn larger nogoods.

No, the answer is incorrect.
Score: 0
Accepted Answers:
smaller nogoods are preferred to larger nogoods.
it is harder to learn smaller no goods