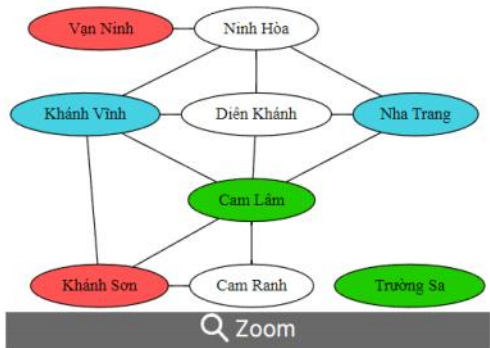


## Quiz 5

Friday, March 29, 2024 7:46 AM

1 of 12



We do map coloring with 3 colors {red, green, blue} such that adjacent regions must be assigned different colors. Can this Constraint Satisfaction Problem (CSP) be solved with the current assignment?

A

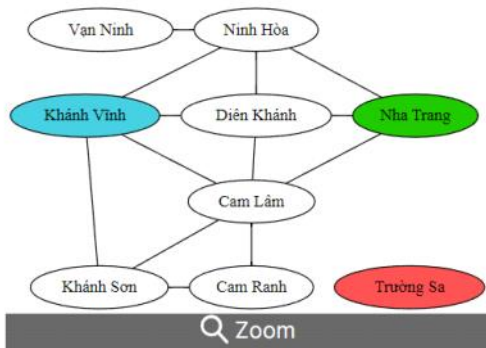
Yes

B

No

SUBMIT ANSWER

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We do map coloring with 3 colors {red, green, blue} such that adjacent regions must be assigned different colors. Can this Constraint Satisfaction Problem (CSP) be solved with the current assignment?

A

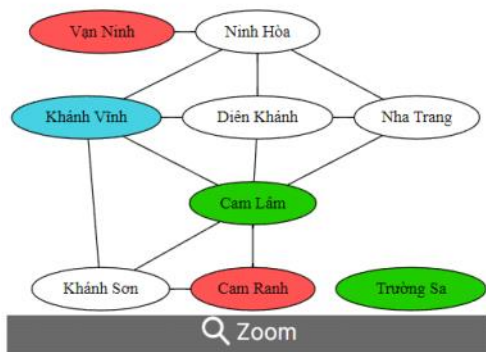
Yes

B

No

SUBMIT ANSWER

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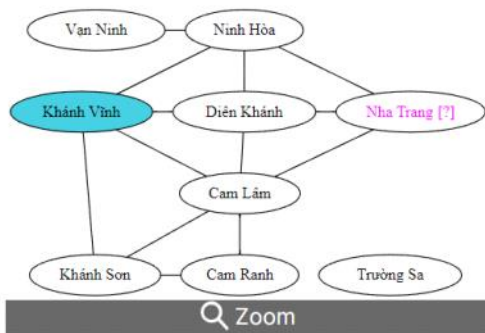


After coloring Cam Lâm green, we perform Forward Checking. Which of the following statement is correct?

- ☐ A The domain of the variable Nha Trang is {red, blue}.
- ☐ B The domain of the variable Khánh Sơn is empty.
- ☐ C The CSP can't be solved with the current color assignment.
- ☒ D All of the above are correct.

SUBMIT ANSWER

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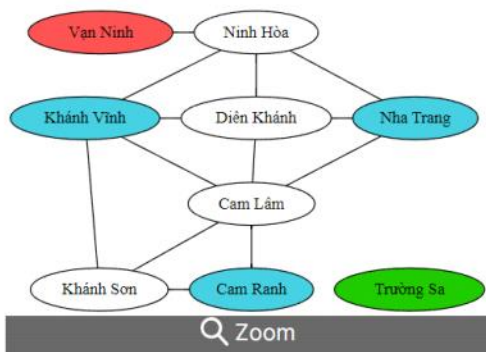


We do map coloring with 3 colors {red, green, blue}. According to the Least-Constraining-Value ordering, which color should we choose to try for the node "Nha Trang" first?

- ☐ A Red
- ☒ B Blue
- ☐ C Green
- ☐ D Any of the above.

SUBMIT ANSWER

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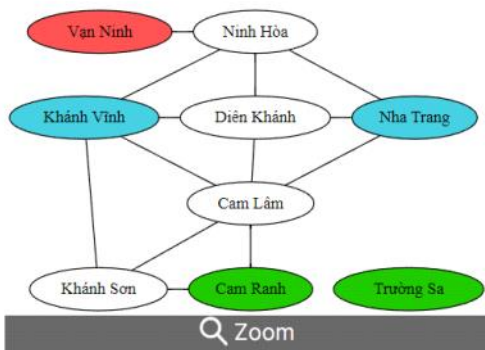


According to the Minimum-Remaining-Value ordering, which variable should be chosen to be colored next?

- |                                    |          |                         |            |
|------------------------------------|----------|-------------------------|------------|
| <input checked="" type="radio"/> A | Ninh Hòa | <input type="radio"/> B | Diên Khánh |
| <input type="radio"/> C            | Cam Lâm  | <input type="radio"/> D | Khánh Sơn  |

SUBMIT ANSWER

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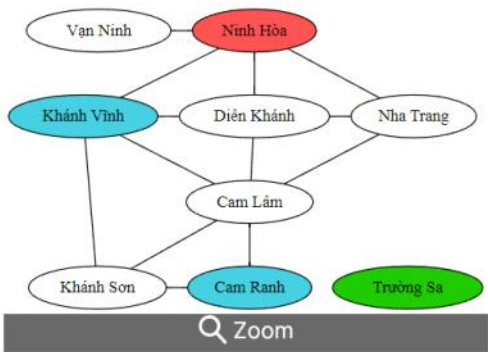


Which method can help us detect failure early in the current color assignment?

- |                         |                         |                                    |                          |
|-------------------------|-------------------------|------------------------------------|--------------------------|
| <input type="radio"/> A | Forward Checking        | <input checked="" type="radio"/> B | AC-3                     |
| <input type="radio"/> C | Minimum Remaining Value | <input type="radio"/> D            | Least Constraining Value |

SUBMIT ANSWER

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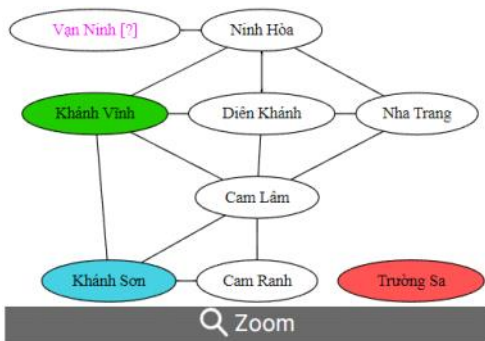


According to the Minimum-Remaining-Value ordering, which variable should be chosen to color next?

- |                         |           |                                    |            |
|-------------------------|-----------|------------------------------------|------------|
| <input type="radio"/> A | Vạn Ninh  | <input type="radio"/> B            | Khánh Sơn  |
| <input type="radio"/> C | Nha Trang | <input checked="" type="radio"/> D | Diên Khánh |

SUBMIT ANSWER

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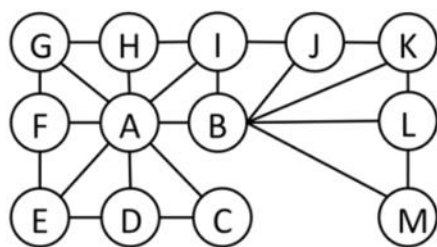


According to the Least-Constraining-Value ordering, which color should we choose to try for the node Vạn Ninh first?

- |                         |      |                                    |                   |
|-------------------------|------|------------------------------------|-------------------|
| <input type="radio"/> A | Red  | <input checked="" type="radio"/> B | Green             |
| <input type="radio"/> C | Blue | <input type="radio"/> D            | Any of the above. |

SUBMIT ANSWER

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What is the smallest cutset in the following graph?

Zoom

- ☐ A
- ☐ B
- ☒ C
- ☐ D

SUBMIT ANSWER

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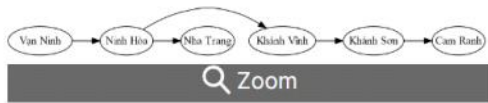


Zoom

For tree-structured CSP, if all parent→child arcs are consistent, which of the following statement is correct.

- ☒ A
 Value assignments for variables can be done in the top-down order (from root to leaf nodes) without backtracking.
- ☐ B
 All child→parent arcs are also consistent.
- ☐ C
 Value assignment for variables can be done in the bottom-up order (from leaf nodes to root) without backtracking.

SUBMIT ANSWER



For tree-structured CSPs, why don't we enforce arc consistency for parent→child arcs in the top-down order?

A

Because all child→parent arcs can't then be made consistent automatically while the bottom-up traversing can enforce that indirectly.

C

Because some nodes can have multiple children, and consistency can't be ensured for all parent→child arcs.

B

Because all parent→child arcs can't then be made consistent in just one top-down pass.

**SUBMIT ANSWER**

11/12 92%