

# Survey 9

\* Required

1. Please give your name \*

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2. Please give your CUHK student ID \*

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3. How much of Assignment 8 have you completed? \*

*Mark only one oval.*

- ☐ What? There is an assignment!?
- ☐ Seen it.
- ☐ Thought about it.
- ☐ Tried it.
- ☐ Finished it!!

4. Have you enrolled into Course 3 yet? \*

*Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Maybe

5. How many Course 3 Module 1 lectures have you watched? \*

*Mark only one oval.*

- ☐ None
- ☐ 1
- ☐ 2-3
- ☐ All

6. What are covered in Module 1? You can tick more than one. \*

*Check all that apply.*

- ☐ Global constraints
- ☐ Propagators
- ☐ Propagation Engine
- ☐ Basic search
- ☐ Variable ordering
- ☐ Value ordering

7. What are the basic components of a Constraint Programming (CP) Solver? You can take more than one. \*

Check all that apply.

- ☐ Searching
- ☐ Merging
- ☐ Propagation
- ☐ Sorting
- ☐ Bounding

8. How do the two components (call them 1 and 2) of a CP Solver collaborate with each other? \*

Mark only one oval.

- ☐ 1, 2, 2, 2, ...
- ☐ 1, 1, 2, 1, 2, 2, 2, 1, 1, 1, ...
- ☐ 2, 1, 1, 1, ...
- ☐ 1, 2, 1, 2, 1, 2, 1, 2, ...
- ☐ NONE of the above

9. What is the basic functionality of a propagator? \*

Mark only one oval.

- ☐ Examine a constraint
- ☐ Prune variable domain values
- ☐ Assign a value to a variable
- ☐ Select a variable
- ☐ NONE of the above

10. Considering the same constraint, which of the following is true? You can tick more than one. \*

Check all that apply.

- ☐ A domain propagator is at least as good as a bounds propagator
- ☐ A domain propagator is stronger than a bounds propagator
- ☐ A bounds propagator is at least as good as a domain propagator
- ☐ A bounds propagator is stronger than a domain propagator
- ☐ A domain propagator is equivalent to a bounds propagator

11. Considering the same constraint, which of the following about domain and bounds(Z) propagators are true? You can tick more than one. \*

Check all that apply.

- ☐ A bounds(Z) propagator prunes more in general
- ☐ A domain propagator prunes more in general
- ☐ A bounds(Z) propagator is more expensive to execute in general
- ☐ A domain propagator is more expensive to execute in general
- ☐ Using bounds(Z) propagators in a CP solver is always faster
- ☐ Using domain propagators in a CP solver is always faster

12. **Considering the same constraint, which of the following about domain and bounds(R) propagators are true? You can tick more than one. \***

*Check all that apply.*

- ☐ A bounds(R) propagator prunes more in general
- ☐ A domain propagator prunes more in general
- ☐ A bounds(R) propagator is more expensive to execute in general
- ☐ A domain propagator is more expensive to execute in general
- ☐ Using bounds(R) propagators in a CP solver is always faster
- ☐ Using domain propagators in a CP solver is always faster

13. **Considering the same constraint, which of the following about bounds(Z) and bounds(R) propagators are true? You can tick more than one. \***

*Check all that apply.*

- ☐ A bounds(R) propagator prunes more in general
- ☐ A bounds(Z) propagator prunes more in general
- ☐ A bounds(R) propagator is more expensive to execute in general
- ☐ A bounds(Z) propagator is more expensive to execute in general
- ☐ Using bounds(R) propagators in a CP solver is always faster
- ☐ Using bounds(Z) propagators in a CP solver is always faster

14. **Given a set of propagators, when will a propagation engine stop? \***

*Mark only one oval.*

- ☐ After each propagator is exercised once
- ☐ After each propagator is exercised twice
- ☐ Until every propagator is removed
- ☐ Until every propagator can make no changes to variable domains
- ☐ Until every variable domain becomes empty

15. **What does a propagator of a constraint do? \***

*Mark only one oval.*

- ☐ Remove variables that can satisfy the constraint
- ☐ Remove variables that cannot satisfy the constraint
- ☐ Remove variable domain values that can satisfy the constraint
- ☐ Remove variable domain values that cannot satisfy the constraint
- ☐ NONE of the above

16. **Given a set of propagators, what does a propagation engine do? \***

*Mark only one oval.*

- ☐ Propagate information of constraints from one to another via variable domains
- ☐ Propagate domains of variables from one to another via constraints
- ☐ Propagate variable domain values from one to another via variables
- ☐ Propagate variable domains from one to another via variables
- ☐ NONE of the above

17. In chronological backtracking search, what aspects of the search tree is affected by variable choices (assuming value ordering remains unchanged)? You can tick more than one. \*

*Check all that apply.*

- ☐ The height
- ☐ The size
- ☐ The width
- ☐ The shape
- ☐ The ordering of the levels
- ☐ The ordering of the branches
- ☐ The ordering of the solutions
- ☐ The number of root nodes
- ☐ The number of internal nodes
- ☐ The number of leave nodes

18. In chronological backtracking search, what aspects of the search tree is affected by value choices (assuming variable ordering remains unchanged)? You can tick more than one. \*

*Check all that apply.*

- ☐ The height
- ☐ The size
- ☐ The width
- ☐ The shape
- ☐ The ordering of the levels
- ☐ The ordering of the branches
- ☐ The ordering of the solutions
- ☐ The number of root nodes
- ☐ The number of internal nodes
- ☐ The number of leave nodes

19. How can propagation and search be combined to solve satisfaction problems? \*

*Mark only one oval.*

- ☐ propagate once and then search
- ☐ propagate and search in no particular order
- ☐ search once and then propagate
- ☐ propagate and search interleave
- ☐ NONE of the above

20. Have you attempted Workshop 9 yet? \*

*Mark only one oval.*

- ☐ No
- ☐ Thought about it
- ☐ Completed it

21. **How much of Assignment 9 have you completed?** \*

*Mark only one oval.*

- ☐ What? There is another ASSIGNMENT!?
- ☐ Seen it.
- ☐ Thought about it.
- ☐ Tried it.
- ☐ Finished it!!

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