

## **Artificial Intelligence 1**

### Quiz #6 (constraint satisfaction)

What is a constraint?

What is a constraint network?

What is a solution to a constraint satisfaction problem?

Describe solving a CSP as a problem of path finding (what is a state and what is a state transition/action?).

What does it mean that a CSP is a commutative problem?

What is the difference between look-back and look-ahead techniques?

Explain the fail-first and succeed-first principles. Can they be used together?

What is the difference between dom and deg heuristics?

Which approach prunes search branches earlier, forward checking or look ahead?

What is the relation between look-ahead and arc consistency?

If the problem is arc consistent, does it (always) have a solution?

What is the lower-bound of time complexity for making the problem arc consistent?

What is domain filtering?

If the problem with  $n$  variables is  $n$ -consistent, does it (always) have a solution?

Can we describe arc consistency as  $k$ -consistency? Which  $k$ ?

Describe  $n$ -queens problem as a CSP.