## *Parts of A Production System*

**Rules** A set of rules, each of which consists of:

- A pattern to match that determines the applicability of the rule
- An action to be performed if the pattern is matched

**Database** A database that contains whatever information is appropriate for the particular task. The information within this database is structured

**Control** A control strategy that specified the order in which the rules will be compared to the database and a way of resolving conflicts that arise when several rules match at once.

## *Clips*

| | |
|---|---|
| **Rules** | The rules from *defrule* |
| **Database** | The facts that have been asserted |
| **Control** | Clips itself (with possibly salience) takes over the strategy of which rules fire. |

## *Requirements For a Production System*

- What is a representation of the state of the system
- What is the initial state
- What is the final state
- What are the production rules acting on the states

## *Water Jug Problem*

You are given two jugs:

- 4 gallon jug
- 3 gallon jug

Neither has markers.

There is a pump that can be used to fill the jugs with water.

How can you get exactly 2 gallons of water into the 4 gallon jug.

## *Water Jug Problem as Production System Problem*

- What are the possible states available within the water jug problem. What is the essential information that must be kept.
- What is the initial state – Both jugs are empty.
- What is the final state – The 4-gallon jug has 2 gallons of water in it
- What kind of rules or manipulations on the states to go from the initial state to the final state.