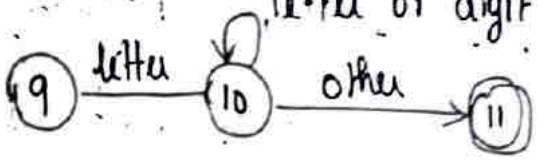
Transition diagram for identifiers and keywords

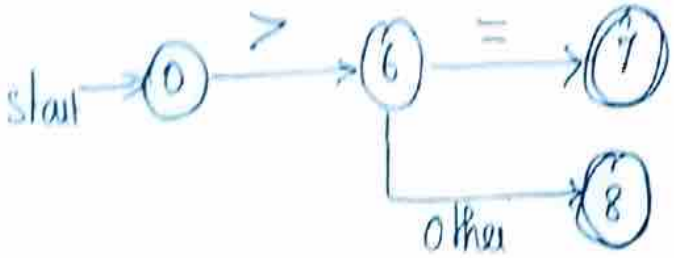


* Since keywords are sequence of letters, they are exceptions to the rule that a sequence of letters and digits starting with a letter is an identifier.
* When the accepting state is reached, we execute some code to determine if the lexeme leading to the accepting state is a keyword or an identifier.
* The return statement next to the accepting state uses
  - gettoken() → to obtain the token
  - install_id() → to obtain the attribute value to be returned
* The symbol table is examined and if the lexeme is found there marked as a keyword, install_id() returns 0
* If the lexeme is found and is a program variable, install_id() returns a pointer to the symbol table entry.
* If the lexeme is not found in the symbol table it is installed as a variable and a pointer to the newly created entry is returned.

Transition Diagrams:

* As an intermediate step in the construction of a lexical analyzer, we first produce a stylized flowchart called a transition diagram
* This transitions diagram are deterministic
* One state is labeled as the start state; it is the initial state of the transition diagram where control resides when we begin to recognize a token.
* Certain states may have actions that are executed when the flow of control reaches that state.
* On entering a state we reach the next input character.
* If there is an edge from the current state whose label matches this character, we then go to the state pointed to by the edge.
* Otherwise we indicate failure.

Transition diagram for >=



* Its start state is 0. In state 0, we read the next input character. The edge labeled > from state 0 is to be followed to state 6 if this input character is >.
* Otherwise we have failed to recognize either > or >=.

A transition diagram for relational operator: