

2. Handle pruning:

the process of identifying handles and reducing them to the appropriate left most non-terminals. It is the basis of bottom-up parsing and is responsible for the accomplishment of syntax analysis using bottom-up parsing

1.Types of LR Parsers

- 1.LR(0) Parser
2. Simple LR-Parser (SLR)
3. Canonical LR Parser (CLR)
4. LALR Parser.

3.Applications of DAG

DAG is used to find common subexpressions. It is used to determine the names used within the block and the names computed outside the block. It determines which statements in the block's computed value may be used outside the block

4.where is representation of intermediate code

The intermediate code can be represented in the form of postfix notation, syntax tree, directed acyclic graph (DAG), three-address code, quadruples, and triples

5.define closure and go to operation

Closure Operation:

The closure operation expands a set of LR(0) items by considering their productions and potential lookahead symbols. It determines the possible states and transitions in the LR parsing table.

Go To Operation:

The Go To operation transitions between states in LR parsing based on a given symbol. It determines the next state by following transitions in the LR parsing table.

6.convert a given statement into three address code

Assignment Statement- $x = y \text{ op } z$ and $x = \text{op } y$. Here, ...

Copy Statement- $x = y$. Here, ...

Conditional Jump- If $x \text{ relop } y$ goto X. Here, ...

Unconditional Jump- goto X. Here, X is the tag or label of the target statement. ...

Procedure Call- param x call p return y.

7.construct a Syntax tree for statement

Each node in a syntax tree can be executed as data with multiple fields. In the node for an operator, one field recognizes the operator and the remaining field includes a pointer to the nodes for the operands. The operator is known as the label of the node

8. what is code notion and deadcode elimination

dead code elimination is a compiler optimization technique that removes code that does not affect the program output. This optimization is performed by the compiler during the compilation process. Dead code elimination is also known as dead code removal or dead code stripping

9. Register and Address Descriptors:

A register descriptor is used to keep track of what is currently in each registers. The register descriptors show that initially all the registers are empty. An address descriptor stores the location where the current value of the name can be found at run time

10. basic block and flow graph

basic blocks are a straight-line code sequence that has no branches in and out branches except to the entry and at the end respectively. Basic block is a set of statements that always executes one after other, in a sequence. The first task is to partition a sequence of three-address code into basic blocks.

A flow graph is a directed graph with flow control information added to the basic blocks. The basic blocks serve as nodes of the flow graph. The nodes of the flow graph are basic blocks. It has a distinguished initial node. There is a directed edge from block B1 to block B2 if B2 appears immediately after B1 in the code.

11. Instruction costs :

Instruction cost = 1 + cost for source and destination address modes. This cost corresponds to the length of the instruction. Address modes involving registers have cost zero. Address modes involving memory location or literal have cost one