Assignment-3

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Lexical Analysis:

→ Reach the successive line

→ Breaks into items like identifier, operator, de-limitor.

→ Constructs symbol table.

→ Symbol table allocates memory.

Lexical Analysis is the first phase of the complier also known as a scanner. It converts the high level input program into a sequence of Tokens.

* Lexical Analysis can be implemented with the Deterministic finite Automata.

* The output is sequence of tokens that is sent to the parser for syntax analysis.

Syntactic Analysis:

→ Expression, statement, declaration identified.

→ Aided by formal grammer of programming language.

Syntactic analysis or parsing or syntax analysis is the third place of NLP. The purpose of this phase is to draw exact meaning from the text. Syntax analysis checks the text for meaningfulness comparing to the rules of formal grammer.

For example, the sentence like "hot ice cream" would be rejected by semantic analyzer.

Semantic analysis:

→ ~~Expression~~, ~~statement~~, Analysis phase of syntax.

→ Last phase of translation is code generation.

Tools:

LEX - Lexical Analyser

YACC - Yet Another compiler

Semantic Analysis makes sure that declarations and statements of program are sementically correct, it is a collection of procedures which is called by parser as and when required by grammar.

Both syntax tree of previous phase and symbol table are used to check the consistency of the given code. Type checking is an important part of semantic analysis where compiler makes sure that each operator has matching operands.