Sardar Vallabhbhai Patel Institute of Technology, Vasad

Assignment 2 (System Programming-2150708)

Date: 9/8/18 **Submission week: 27th -31st August**

1. Explain in brief design of a Two Pass Assembler.
2. Define and explain different intermediate code representations.
   OR
   Explain the use of intermediate code with example in assembler and also mention field of it
3. Draw a flowchart of maintaining Table of Incomplete Instruction (TII) in assembler.
4. Describe following data structures: OPTAB, SYMTAB, LITTAB and POOLTAB.
5. Explain advanced assembler directives with suitable example.
6. Define forward references. How it can be solved using back-patching? Explain with example.
7. An assembly program contains the statement X EQU Y + 25
   Indicate how the EQU statement can processed if
   (1) Y is a back reference (2) Y is a forward reference
8. Explain the difference between literal and constant in assembler with its syntax. Why POOLTAB is requiring?
9. Explain the data structure of single pass assembler.
10. Write algorithm for practical approach of top down parsing.
    OR
    Explain recursive descendent parsing algorithm.
11. Construct an operator precedence matrix for the operators of a grammar for expressions containing arithmetic, relational and Boolean operator.
12. Explain lexical analysis of language processor
13. Explain Types of grammar in detail.
14. Define: L-Attributed definition in detail.
15. Define: Ambiguous grammar. Also state example of same.
16. Explain Naïve Bottom up parsing algorithm with example and also mention which problem occurs during parsing.
17. Explain Left recursion, Left factoring and backtracking in top down parsing.
18. What is main task of semantic analysis phase? Explain inherited and synthesized attributes in detail with example.

Prepared by:

Vibhavari Patel

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