

CSE-430

1st class

Date

27/06/2014

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Zu mor

194 6626353

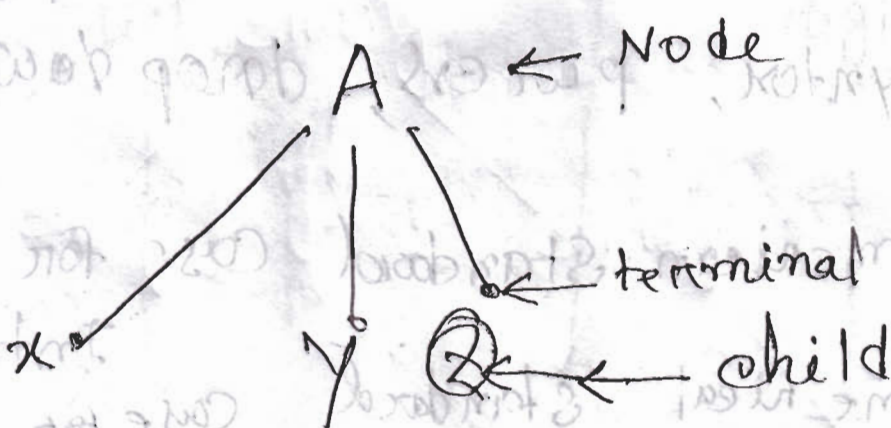
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## Compiler construction

Context Free Grammar: Context free grammar can be used to help guide the translation of program.

System directed translation: A grammar oriented compiling technique known as system directed translation.

Parse tree:



A has a production  $A \rightarrow xyz$ , then

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a parse tree may have an interior node labeled  $A$  with three child children labeled  $x, y, z$ , from left to right.

Properties of Parse Tree: ① The root is labeled by the start symbol.

- ② Each leaf is labeled by a token or by  $\epsilon$ .
- ③ Each Interior node is labeled by a non-terminal.
- ④ If  $A$  is the non terminal labeling some interior node and  $x_1, x_2, \dots, x_n$  are the labels of the children of that node from left to right then,  $A \rightarrow x_1, x_2, \dots, x_n$  is a production.



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2nd class

\* Two parse trees for  $9-5+2$ :

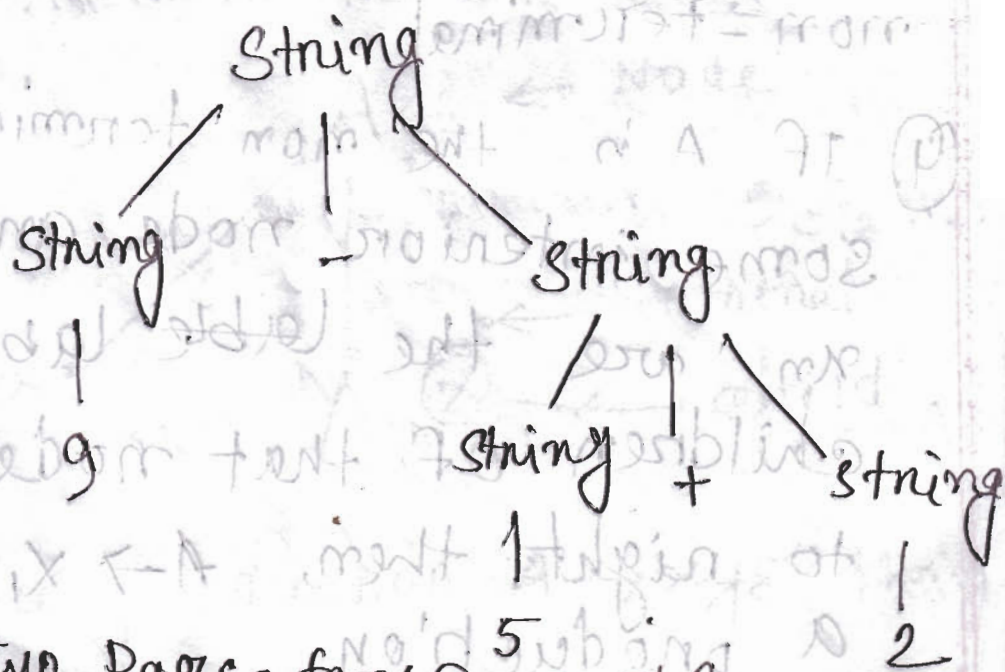
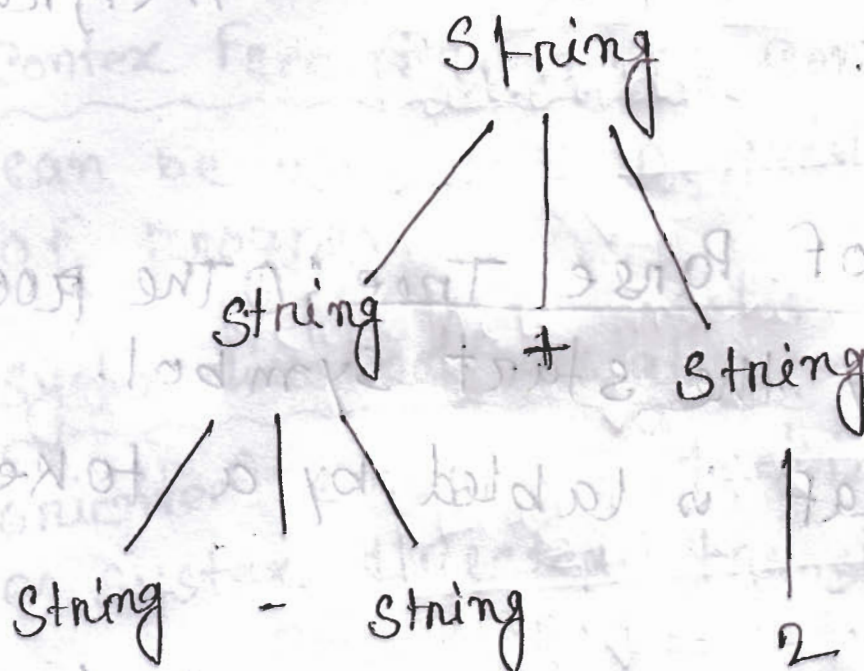
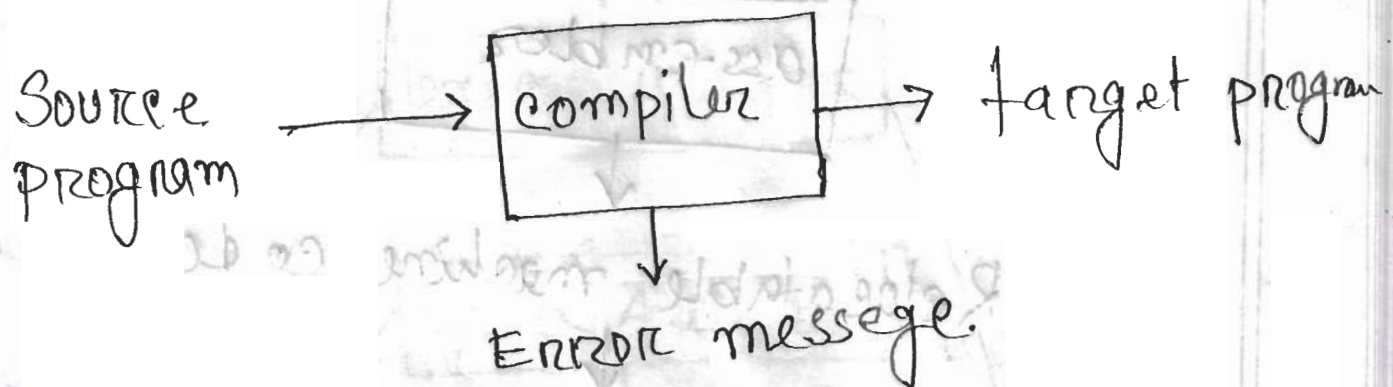
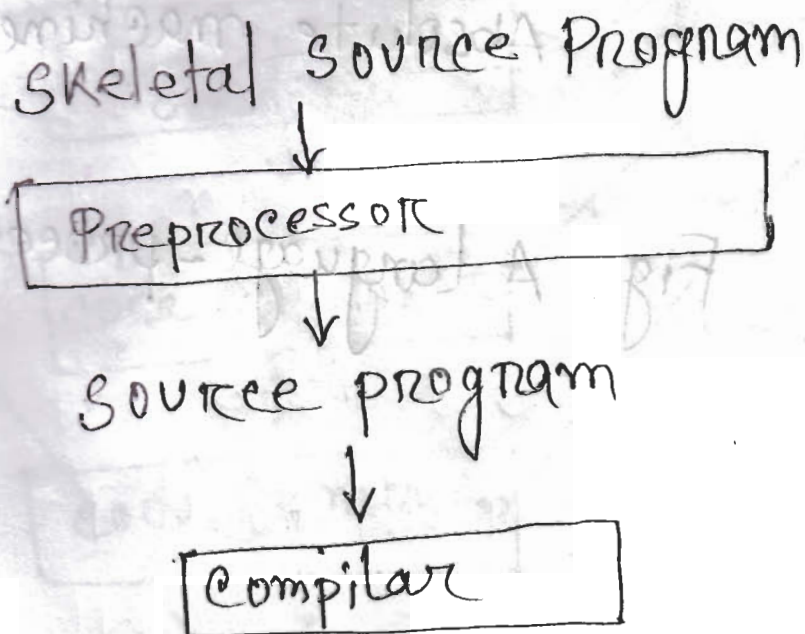


Fig: Two parse trees for  $9-5+2$

Q Compiler:

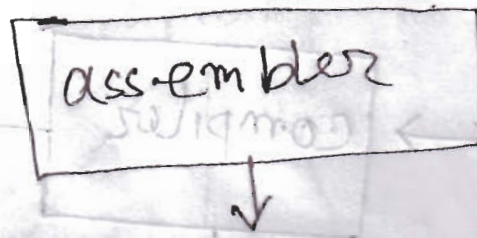


Q Draw a language-Processing system:

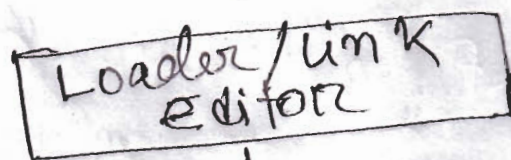




↓  
Target assembly program  
↓



Relocatable machine code  
↓



Library  
relocatable  
object files.

Absolute machine code  
↓

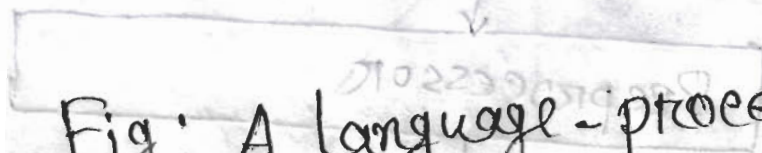


Fig: A Language-processing system.

Q Draw the phases of a compiler:

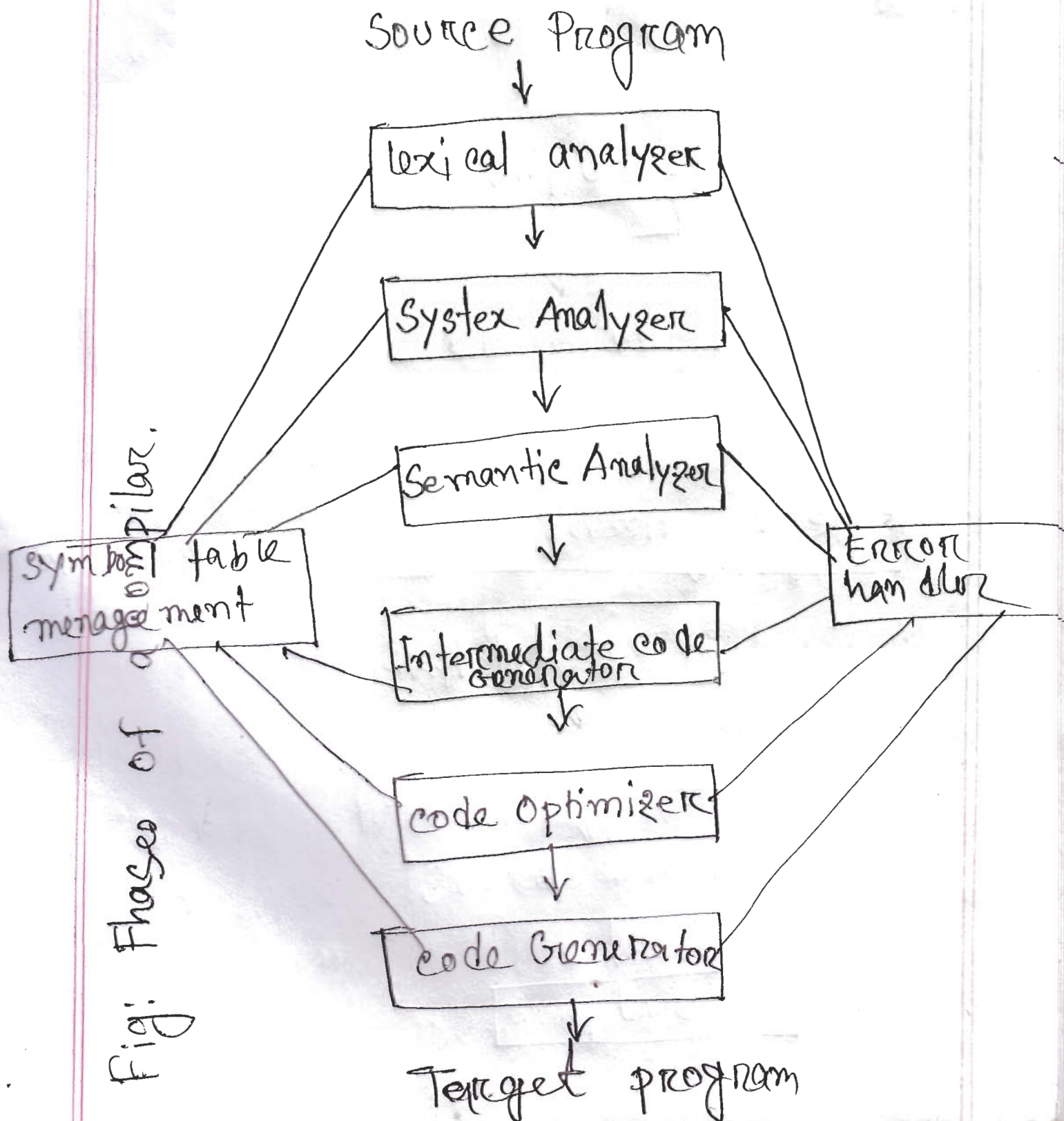


Fig: Phases of a compiler.