

Principle of Programming Language (RCS-503)

ASSIGNMENT 1

1. Rewrite the following expression in Prefix, Postfix notation $(-b + \sqrt{b^2 - 4ac}) / (2a)$. Further give the AST (abstract syntax tree) for the above expression.[CO2]
2. Major factors that affect development and evolution of programming language methodologies.[CO2]
3. Why we study programming languages? What are different benefits of using programming languages?[CO2]
4. Explain the concept of language paradigms or Programming paradigms with example.[CO1]
5. What do you mean by translator? Give the structure and operations of different translators?[CO1]
6. What do you mean by binding and binding time? What is the difference between binding at compile time and binding at execution time?[CO1,CO2]
7. Draw the block diagram of Compiler and explain its various phases.[CO1]
8. Draw Parse Tree for the following expressions for the given grammar: [CO2]

Grammar is: $E ::= E + T \mid E - T \mid T$
 $T ::= T * F \mid T / F \mid F$
 $F ::= \text{number} \mid \text{name} \mid (E)$

- i. $2+3$
 - ii. $(2+3)$
 - iii. $2+3*5$
 - iv. $(2+3)*5$
 - v. $2+(3*5)$
9. What is Backus-Naur Form (BNF) also explain the Extended BNF (EBNF) with example?[CO1]