

DEPARTMENT OF COMPUTER SCIENCE & ENGG.
Assignment I
Branch/Year/Semester/Sec: CSE/III Yr/VIth Sem/A/B/C
Sub Name & Code: PPL (CS-602)

Q1 In what language is UNIX written?

Ans: C

Q2 What is the name of category of programming languages whose structure is dictated by the von Neumann computer architecture?

Ans: Imperative Languages

Q3 Which produces faster program execution, a compiler or a pure interpreter?

Ans: Compiler

Q4 What are the three general methods of implementing a programming language?

Ans: Compiler, Interpreter and Pure Interpreter.

Q5 What role does the symbol table play in a compiler?

Ans: Symbol table is an important data structure created and maintained by compilers in order to store information about the occurrence of various entities such as variable names, function names, objects, classes, interfaces, etc. Symbol table is used by both the analysis and the synthesis parts of a compiler.

Q6 Define *lifetime*, *scope*, *static scope* and *dynamic scope*?

Ans: P.N [247-253]- Principle of programming languages

OR

Q7 Define *static*, *stack dynamic*, *explicit heap- dynamic* and *implicit heap dynamic variables*.

What are the advantages and disadvantages of these?

Ans: P.N [233-236]- Principle of programming languages

Q8 Using the grammar given, show a parse tree and a leftmost derivation for the following statement.

$$A = (A+B) * C$$

Grammar:

$\langle \text{assign} \rangle \rightarrow \langle \text{id} \rangle = \langle \text{expr} \rangle$

$\langle \text{id} \rangle \rightarrow A|B|C$

$\langle \text{expr} \rangle \rightarrow \langle \text{expr} \rangle + \langle \text{term} \rangle \mid \langle \text{term} \rangle$

$\langle \text{term} \rangle \rightarrow \langle \text{term} \rangle * \langle \text{factor} \rangle \mid \langle \text{factor} \rangle$

$\langle \text{factor} \rangle \rightarrow (\langle \text{expr} \rangle) \mid \langle \text{id} \rangle$

Ans: P.N.[141-143] – Principle of programming languages


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