

UNIT-3 DATA STRUCTURES

Ques 1) Consider any algebraic expression $E=(A-B)/((C*D)+E)$

Represent it as a binary tree. (CO4)

Ques 2) Suppose T is a binary tree stored in memory. Draw the diagram of T. (CO4)

20	0	0
30	1	13
40	0	0
50	0	0
60	2	6
70	0	8
80	0	0
90	7	14
	10	
	0	
35	0	12
45	3	4
55	11	0
95	0	0

Ques3) Consider the following algebraic expression $E=(2X+Y)(5A-B)^3$ (CO4)

- Draw the tree T which corresponds to expression E.
- Find the scope of the exponential operator i.e. find the subtree rooted at the exponential operator.
- Find the prefix polish expression P which is equivalent to E and find the preorder of T.

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Ques 4) Construct a Binary tree. (CO4)

Preorder : A B D G C E H I F

Inorder : D G B A H E I C F

Ques 5) Construct a binary tree(CO4)

Inorder : D G B A H E I C F

Postorder : G D B H I E F C A

Ques 6) Construct an expression tree for the postfix expression.

$ab+cde+**$

Find its in,pre,postorder traversal. (CO4)

Ques 7)Construct an expression tree for the arithmetic expression(CO4)

$(a+b*c)-((d*e+f)/g)$