

Assignment No. 3

A book consists of chapters, chapters consists of sections & sections consist of subsection.

Construct a tree and print the nodes

General Tree: - General tree is a tree in which each node can have either one or many child nodes.

Functions

- * void (reate-tree()! This function is used

 to create modes root

 root = new node(); and assign a label and the

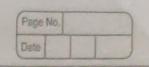
 member of chapter it contains.

 cin >> root = label;

 cin >> ch count = tchapters;

 Using a for loop, we can assign pointer
 - Using a for loop, we can assign pointer to each chapter that we create Similarly, count the number of sections by taking the input from the user.

 root > child(i7 -> child(j7 = new mode
- * void-display (node * r,): This function takes
 the root pointers & displays the contents
 of the book from root node ie label or
 name to the sub-sections of the node.
 ie leaf node.



Using for loops we can display the sections of the book.

for (j=0, j < x, → child[i] → ch_lount', j+t)

{

cout << x, → child[i] → childej] → label;

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We print the name of the sections using the above loop.

Root node :-

Struct node

char label C10]

int ch-count; struct node * child [107;

y* root;

First assign root = NULL

root = new nodec;

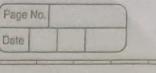
cout << "Enter name of book";

Child node: - The child node is also created using dynamic memory allocation.

root → child (i] = new_node:

Here child (i] is the address folder of the child & its name is given using root → child[i]

→ lobel.



* Applications of Trees

storing naturally heirarchial study: - Trees are used to store the dato in heirarchial study structure.

2) Heap! - It is also a data tree structure implement using arrays. 3) Facebook

4) GPS networking system