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//Created By Ritwik Chandra Pandey on 23/05/2021
//183215
//Height,Size BT



#include <stdio.h>
#include <stdlib.h>

/* A binary tree node has data, pointer to left child
   and a pointer to right child */
struct node
{
    int data;
    struct node* left;
    struct node* right;

};

/* Helper function that allocates a new node with the
   given data and NULL left and right pointers. */
struct node* newNode(int data)
{
  struct node* node = (struct node*)
                      malloc(sizeof(struct node));
  node->data = data;
  node->left = NULL;
  node->right = NULL;

  return(node);
}

/* Computes the number of nodes in a tree. */
int size(struct node* node)
{
  if (node==NULL)
    return 0;
```

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  else
    return(size(node->left) + 1 + size(node->right));
}
int maxDepth(struct node* node)
{
    if (node == NULL)
        return 0;
    else {
        /* compute the depth of each subtree */
        int lDepth = maxDepth(node->left);
        int rDepth = maxDepth(node->right);

        /* use the larger one */
        if (lDepth > rDepth)
            return (lDepth+1);
        else
            return (rDepth+1);
    }
}


/* Driver program to test size function*/
int main()
{
  struct node *root = newNode(1);
  root->left        = newNode(2);
  root->right       = newNode(3);
  root->left->left  = newNode(4);
  root->left->right = newNode(5);

  printf("Size of the tree is %d", size(root));
  printf("\nHeight of tree is %d", maxDepth(root)-1);
  getchar();
  return 0;
}
```