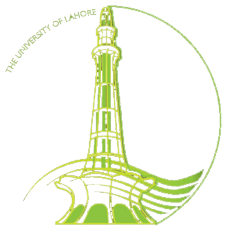

THE UNIVERSITY OF LAHORE
ISLAMABAD CAMPUS

Data Structure and Algorithms

Lab Report

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Lab Report #:	10
Dated:	28-06-2018
Submitted To:	Mr. Usman Ahmed

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Experiment # 10
Binary Tree Traversal

Objective
To implement and understand blind searching techniques such as Breadth First Search.

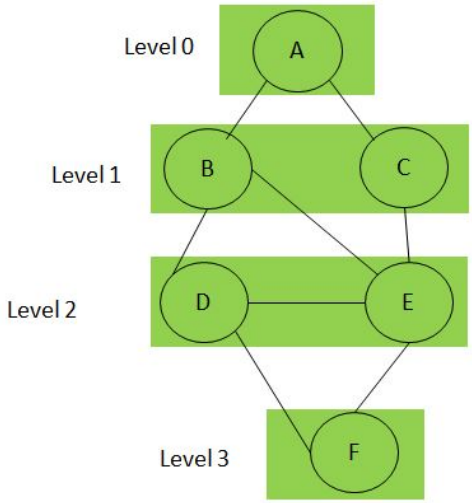
Understand the searching in BFS

Program BFS Technique

Software Tool
1. Dev C++

1 Theory

Algorithm Working :



2 Program

```
#include<iostream>
#include<queue>
using namespace std;

struct Node {
        char data;
        Node *left;
        Node *right;
};

void LevelOrder(Node *root) {
        if(root == NULL) return;
        queue<Node*> Q;
        Q.push(root);

        while(!Q.empty()) {
                Node* current = Q.front();
                Q.pop();
                cout<<current->data<<" ";
                if(current->left != NULL) Q.push(current->left);
                if(current->right != NULL) Q.push(current->right);
        }
}
Node* Insert(Node *root,char data) {
        if(root == NULL) {
                root = new Node();
                root->data = data;
                root->left = root->right = NULL;
        }
        else if(data <= root->data) root->left = Insert(root->left,data);
        else root->right = Insert(root->right,data);
        return root;
}

int main() {

        Node* root = NULL;
        root = Insert(root,'M'); root = Insert(root,'B');
        root = Insert(root,'Q'); root = Insert(root,'Z');
```

```
        root = Insert(root, 'A'); root = Insert(root, 'C');

        LevelOrder(root);
}
```

```
M B Q A C Z
--------------------------------
Process exited after 0.1142 seconds with return value 0
Press any key to continue . . .
```