**Week 3 ADA LAB**

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**Breadth First Search**

**Code:-**

#include <stdio.h>

int queue[10];

int vis[10];

int matrix[10][10];

int front=1,rear=0;

void push(int a){

queue[rear]=a;

rear++;

}

int pop(){

return queue[front++];

}

void bfs(int n, int size){

for(int i=1;i<=size;i++){

if(matrix[n][i]==1 && vis[i]==0){

push(i);

printf("%d\t",i);

vis[i]=1;

}

}

int m=pop();

bfs(m,size);

};

int main(){

printf("enter the number of vertices\n");

int size;

scanf("%d",&size);

printf("enter the adjacency matrix\n");

for(int i =1;i<=size;i++){

for(int j =1;j<=size;j++){

scanf("%d",&matrix[i][j]);

}

}

printf("BFS Traversal\n");

for(int i=1;i<=size;i++){

if(vis[i]==0){

printf("%d\t",i);

vis[i]=1;

push(i);

bfs(i,size);

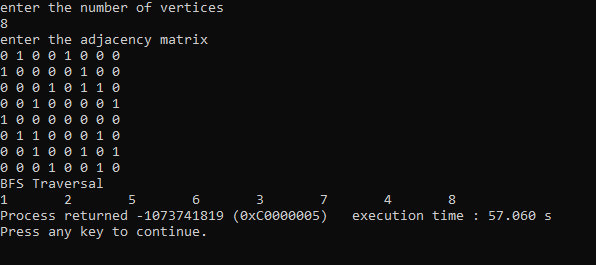
}

}

return 0;

}

**OutPut:-**

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