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**EX NO: 11**

**PROGRAM NAME: GRAPH TRAVERSALS**

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**CODE:**

```
#include<stdio.h>
```

```
int s[10],q[100];
```

```
int top=-1,f=-1,r=-1;
```

```
int ga[5][5]={0,1,1,0,0},{1,0,0,1,1},{1,0,0,0,0},{0,1,0,0,0},{0,1,0,0,0}};
```

```
int vis[5]={1};
```

```
void push(int elt){
```

```
    top++;
```

```
    s[top]=elt;
```

```
}
```

```
int pop(){
```

```
    printf("%d ",s[top]);
```

```
    top--;
```

```
    return(s[top+1]);
```

```
}
```

```
void enqueue(int elt){
```

```
    if(r== -1)
```

```
        f++;
```

```
    r++;
```

```
    q[r]=elt;
```

```
}
```

```
int deque(){
```

```
    printf("%d ",q[f]);
```

```
    f++;
```

```
    return(q[f-1]);
```

```
}
```

```
void DFS(){
```

```
    int i=0;
```

```
    for(int k=0;k<4;k++){
```

```
        for(int j=0;j<5;j++){
```

```
            if(ga[i][j]==1 && vis[j]!=1)
```

```
                push(j);
```

```
        }
```

```
        i=pop();
```

```
        vis[i]=1;
```

```
    }
```

```
}
```

```
void BFS(){
```

```
    int i=0;
```

```
    for(int k=0;k<4;k++){
```

```
        for(int j=0;j<5;j++){
```

```
            if(ga[i][j]==1 && vis[j]!=1)
```

```
                enqueue(j);
```

```
        }
```

```

        i=deque();
        vis[i]=1;
    }
}

int main(){
    int opt,s=0;
    printf("Enter option 1.DFS 2.BFS");
    scanf("%d",&opt);
    printf("%d ",s);
    if(opt==1)
        DFS();
    else
        BFS();
}

```

**OUTPUT1:**

**Enter option 1.DFS 2.BFS1**

**0 2 1 4 3**

**Process returned 0 (0x0) execution time : 2.651 s**

**Press any key to continue.**

**OUTPUT 2:**

**Enter option 1.DFS 2.BFS2**

**0 1 2 3 4**

**Process returned 0 (0x0) execution time : 2.575 s**

**Press any key to continue.**