Lab prog - 9b) Write a program to check whether given graph is connected or not using DFS method.

code:

```
# include <stdio.h>
# define MAX 10
int visited [MAX];
int adj [MAX][MAX];
int n;

void DFS (int v) {
  visited [v] = 1;
  for (int i = 0; i < n; i++) {
    if (adj [v][i] == 1 && !visited [i]) {
      DFS (i);
    }
  }
}

int main () {
  int connected = 1;
  printf ("Enter number of vertices:");
  scanf ("%d", &n);
  printf ("Enter adjacency matrix :\n");
  for (int i = 0; i < n; i++) {
    for (int j = 0; j < n; j++) {
      scanf ("%d", &adj [i][j]);
    }
  }
```

```
for (int i = 0; i < n; i++)
    visited [i] = 0;

DFS (0);
for (int i = 0; i < n; i++) {
  if (!visited [i]) {
      connected = 0;
      break;
  }
}
if (connected)
    printf ("The graph is CONNECTED \n");
else
    printf ("The graph is NOT CONNECTED\n");
return 0;
}
```

Output :

```
Enter number of vertices : 3
Enter vadjacency matrix :
1 0 0
0 0 1
0 1 0
The graph is NOT CONNECTED.
```