## Experiment:2

**1.Programs on Problem Sloving**

a).Solve any problem using depth first search

Aim: To Find and write a program to solve using depth first search

#### Program:

def dfs(image, sr, sc, old\_color, new\_color):

if sr < 0 or sr >= len(image) or sc < 0 or sc >= len(image[0]) or image[sr][sc] != old\_color:

return

image[sr][sc] = new\_color

dfs(image, sr + 1, sc, old\_color, new\_color)

dfs(image, sr - 1, sc, old\_color, new\_color)

dfs(image, sr, sc + 1, old\_color, new\_color)

dfs(image, sr, sc - 1, old\_color, new\_color)

def floodFill(image, sr, sc, new\_color):

old\_color = image[sr][sc]

if old\_color != new\_color:

dfs(image, sr, sc, old\_color, new\_color)

return image

sr, sc = 1, 1

new\_color = 2

result = floodFill(image, sr, sc, new\_color)

for row in result:

print(row)

#### Output:

[2, 2, 2]

[2, 2, 0]

[2, 0, 1]

Result: Thus the program has been written and solved using Depth First Search.