EXPERIMENT 3

Python program for depth limited search

def depth\_limited\_search(graph, start, goal, limit):

def dls(node, goal, depth):

if depth == 0:

return 'cutoff'

elif node == goal:

return 'success'

else:

cutoff\_occurred = False

for neighbor in graph[node]:

result = dls(neighbor, goal, depth-1)

if result == 'cutoff':

cutoff\_occurred = True

elif result != 'failure':

return result

if cutoff\_occurred:

return 'cutoff'

else:

return 'failure'

return dls(start, goal, limit)

# Example usage:

graph = {

'A': ['B', 'C', 'D'],

'B': ['E','F'],

'C': ['G', 'H'],

'D': ['I', 'J'],

'E': [],

'F': [],

'G': [],

'H': [],

'I': [],

'J': []

}

start = 'A'

goal = 'J'

limit = 3

result = depth\_limited\_search(graph, start, goal, limit)

print(result)

OUTPUT

