SuccList ={ 'A':['B','C'], 'B':['D','E','F'], 'C':['G','H','I'], 'D':[],'E':[],'F':['J','K'], 'G':[], 'H':[], 'I':['L','M'], 'J':[],

'K':[], 'L':[], 'M':[] }

Start='A'

Goal='C'

Closed = list()

SUCCESS=True

FAILURE=False

State=FAILURE

def GOALTEST(N):

if N == Goal:

return True

else:

return False

def MOVEGEN(N):

New\_list=list()

if N in SuccList.keys():

New\_list=SuccList[N]

print("New\_list=",New\_list)

return New\_list

def APPEND(L1,L2):

New\_list=L1+L2

return New\_list

def DFS():

OPEN=[Start]

CLOSED=list()

global State

global Closed

while (len(OPEN) != 0) and (State != SUCCESS):

print("------------")

N= OPEN[0]

print("N=>",N)

del OPEN[0] #delete the node we picked

if GOALTEST(N)==True:

State = SUCCESS

CLOSED = APPEND(CLOSED,list(N))

print("CLOSED=",CLOSED)

else:

CLOSED = APPEND(CLOSED,list(N))

print("CLOSED==",CLOSED)

CHILD = MOVEGEN(N)

print("CHILD=",CHILD)

for val in CLOSED:

if val in CHILD:

CHILD.remove(val)

for val in OPEN:

if val in CHILD:

CHILD.remove(val)

OPEN = APPEND(CHILD,OPEN) #append movegen elements to OPEN

Closed=CLOSED

return State

#Driver Code

result=DFS() #call search algorithm

print(Closed,result)