Shiva Praneeth. Kodali
1BM18CS100
AI -Lab1
Shivakodali

```
import numpy as np

~~from p~~
from puzzleNod import *
  import copy
 import time
from queue import PriorityQueue
  from itertools import count

def iterativeDeepeningSearch (startNode):
    maxLayer = 1
     while True:
      dfsList = []
      layer = 0
    dfsList.append ((startNode , layer))
     while len (dfsList) != 0;
       top = dfsList.pop()
        tmpNode = top[0]
        tempLayer = top[1]
         if tmpNode.isGoal():
           trac = []
            ptr = tmpNode
            while ptr is not None:
            trac.append (ptr.nod)
               ptr = ptr.parent
              return tmpLayer, trac
```

Shiva
1BM18CS100

```
nextLayer = tmpLayer + 1
  if nextLayer > maxLayer;
      continue

   validMoves =
   tmpNode.get validMoves ()
          for movechar in validModes :
              next Node = copy . deepcopy (tmpNode)
               nextNode. do Move ( movechar )
                if not  inDFSNodeList ( nextNode, dfsList):

    dfs List.append ((nextNod, nextLayer ))
         nextNode.parent = tempNode ; max Layer += 1

  iterativeDeepeningSearch ())
     def in DFSNodeList (tNode , nList ):
           for  node  in nList :
       if (node[0]. node == tNode.node ) .all()
                  return True
                return False

test = PuzzleNode ()
  test . shuffle ()
  test . show ()
  step, trace = iterativeDeepeningSearch (test)
```

Shiva
1BM18CS100

```
Print (stkp)
 while len (baa )! = 0
          n = baa . pop ()
          print (n)
```