```
Exp. No: 4
Date: hout
      A* Search
def a-star (quid, start, goal):
   def hemistic (a,b):
   return abs (a [O] - b [O]) + abs (a[1] - b[1])
rows, cols = len (quid), len (quid [0])
  Open-list = [(0+ heuristic (start, goal),0, start]
   came - from = & }
  Cost - so - fai = { start : 0 }
  awhile open-list:
    -, current = heappop (open-list)
    if current = = goal:
        path = [ ]
       while current in came-from.
         path. append (current)
         current = came-from [current ]
        path append (start)
         letum path [:: -1]
                                         1111 2
   for dx, dy in [(21,0), (1,0), (0,-1), (0,1)]:
      neighbour = (current (0) + dx, current[1]+dy)
  if [0 < = neighbour [0] < rows and 0 <= neighbour
                          TIJ < cols and
  geid [neighbor [0]] [neighbor [1]] ==0):
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new - cost = cost - so - far [current] +1 if neighbor not in cost \_ so-face or new\_cost < cost so-far [neighbor]: cost - so-far [neighbor] = new -cost Priority = new-cost + hemistic (goal, neighbor, heappush lopen-list, (priority, new-cost, neighbor) came - from [neighbor] = current. · 13 mg . / West Cidod from = more place ro ptitaup - privish = 101 state instal interior source : entrine - uniterior tops formal is intighed a corner a sample - to ( 12.1012 -10211) treates foots bound waised it on a melar Result: Tet maps apole and it is in the Thus the Program was executed successfully to the 10/pis verified. ((seri- principo coratori) hanges issues trad