EXNO: 04 A search DATE: remate a perceperan to solve A seaerch Alexaevithm using python. ALGORITHM: Add the Start norde to the open but with gestand =0 1. Intialization ; and testact) g+ h ( where h & hewristic). select the node forom open-list was the list 2. Node selection; neith the loneut (cn). if the mode to the God, reconstruct and suturn the path. 3. Neighbour Exploration: for each heighbours of the current mode, ralculate the tentative gins. exost to meach the neighbour). If a bother path to a neighbour is found 4. update cost: update g(n) and f(n) and set the avoiest made as the parent of this neighbours continue the peroces until the ejocal 7. Repeat on Terminus: is found an open - lost lacoms empty. Million (Margord. 100-14-30-14

EXAMPLE: 1. with the book of in a met of a fill the fill

CODE: youanh = { 'A': [('B',2), ('E',3)], 'B': [('A',2), ('c', 1)]. 'e': [(B',1),('H',9)], ,D, : [C, E, P) ' (, C, C, 1)]' 'E': [('A', 3), ('D', b)],
'H': [('C', 1), ('D', 1)], herrina Ac= { 'A': 11, 'B': 6, 'C': 99, 'D': 1, 'E': 7, 'G': 03 def a stool (yeaph, stoot, youl): forom Queue import Pedoraty Queue Open-list = Peisovity Queue () open-list. put ((0, Start)) g-lasts = Estant: Dg Came-from = 5 start: rone 3 f-costs = & start : hereinte [start] } notile not open - but, empty (): (wevent = Open-list, get ()[] of inversent = = ejecul: section suconstewet-path (lane-from, wevent) for neighbour, lost in yeart [ wovert]: tentativel-9-cost = ey-routs [ wover] + Cost "I nighbour not in grast our tentative-g-cost zg-out: 4- west = tentation - g- west + hereins the [their gholower] f-costs [neighbour] = f-cost open-list , put (Cf-eat, neighborg)) came - fixon [ neighborot] = werent setuen none def ereconstant path (came-from, revocant): path = IJ \*A TONG while exposent: path. append ( wovent) ausvient - Name\_from [ cureant] path severse ()

retween path start + rode = 'A' bath = a - star (egraph, start - rode, egoal-rode) goal - nocle = 'or' peand ('shoutest path:', path) output: shoutest path : ['A', 'E', 'O', 'bi) All as short groph, what speed: from Busin import property Russis gin hat = Pinchty Queuco) open-list- put ((0, start)) g-looks = Extent: Dg Cone-forces = Fathert: Man 3 1. cocta = gatast: housanc [ stant] while not open - but, loughly () amount = open last. Apt ()[] suckers sween stewert- years ( cans - from persont) I turnerent = = excert! for maghans, lost in equipt assessed I: tentaknel- 9-cost = ex-costs [ consect ] + cont friedpoint not in growt now testastion growt 29 and 29 and: 1- rous = tensoration - 9- rouse + promise to Enoughlower 1 water Tringblowing = 1 wast Open back of part (cf. cost, neighbours) Came from [ nexplain] - unevent Rebult: Thus At problem is executed and output is received and output