Tash 5: + ob ow mant bot BF5: 3+ 3+ 3+ 3+ Adjacency list: BFS (visited, Inaph, node, endPoint): 11/ Do visited [int (node) -1] (-1)
100 Queue 2-append (node) -1 OLI) while conede not empty _____ o(v) Printim word of beaute sw oli) interest of all miercent Point break ____ on) (for for leach meighbour of m in graph: - O(IEI). gradu good got If thisited [int(neighbour)-] =0 - 0(1) grant 20600 out + Do Wisited [in+(neighbour)-] <1 ___ 0(1) Inside the white loop we have, O(TOTP) VC) to Eo < MINTER Constant openations Eo, Fi ... means edges in each down ventices. V +SIVET EV while loop will nun for all ventices.

add them we get, it was VC + E0 + E1 + E2 -- - Ev 10 70 HAIL GONEDRIGA Clo (visited), 2019k, Node, ex[2,1/1]; 1VI <= of Bfs using adjacent listing

Matnin: We already know if we have a nxh matrin for all the Combination for for the worst case matrin traversal sistofo (n2). 31) So, we will assume invive for loop where we got are trying to det the eddes, there we are now traversing a matrix for edges. and that will nesult in IEI = IVI? shient hende laster BF500 matrin = 0 0 (PVI + 1E1) E. F. ... h-coms () $= 0 \left(|V| + |V|^2 \right)$ IN Each Good Ventical = 0(11/5) V

while loop will mun for all ventices.

CS CamScanner

D	FS	:
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Adjacency list: DFS_VISIT(graph, node): Do visited [int (node)-17 (1) Printed. append (node) for each node in graphtnode] - O(IEI) DESLIVISIT (anaph, node) DFS (graph; end Point): : X 2001 16 400 60 4000 6010 forceach moderijn graph - oun) If node not visited. Ofs-VISTT (graph, hode) from DES_ VISIT Weiget, no smoreter) + (c+E) + - = = + (c+Ev) Lie = GN + KE;

squeet souder out mil

= 111 + 151 For DFS we get only

for the whole program, told it is in the VI. + [E] + IVIII Expland is with a sit-= O(IVI + IEI) and brotabases + M = > 11/ + 15/ Matrix: we will assume |E| = |V.123 / bécause to of the matrix. Then, the time complexity. THE FOCIVIE. STARTER (SIVI) DAT . MOSTERANT =31+x2V SN+ 1/x exceptent. Iliw +1 +0V+ <1 I am using, Bfs, algo and trary is tiusing Dfs. The Dfs also. soes to Victory road first because victory road is for from : (+1169643) 278 wor Starting venter and DFS also traverse each overten to its depth without exploning

each overtex to its depth without exploring
the neighbours first, that is why it
finds the victory road also known as the
last ventex first. On the other hand, BFS
also does in level order it explores
each ventex first then does to the
reach one. That makes this also
next

neaching its last venter after too all the venter exploration. Not mandatory to task! 1. Yes | 1 = 1 21 2000000 11in 800 : while 2. In the code we have to add another function. The importance of that function is that it will traverse all the Ventices itself without without depending on CLOS BORY Thingot 2008 OFFE. 270 SAT. 270 new BFS (graph, end Point): sectorest offor Each hope The graph: Guitant the Houtin Atropp robe chot contisted: 1000 +1 KNW 21 tout +28F3 (graphy 1200e o endloint). Les avoir de Colla brook) Gard Div 34+ 26117 last vicitor first. Or-the street hand, E encotino ti raturo laval ni cartiones

3. Yes we can detect eyele both directed un directed graph using Ofs travers sa).