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JD: 20101416	Section: 10
Answer to the Task no. 4	
	Tor adjacency Amatrix,
BFS (visited, graph, node, en	dpoint) and good slide
visited [int(node)-1]	evolt this good rod 1
queue, append (node)	1 De plus de Complexit of
while queue not en	ipty: M
m = queue.	1 DFS (Task 3): () gog
: (bPrinty mbolists	1 DES VISIT (vertex, cardpoint, x
If mossieme	spoint be break triogbas di
For each ne	Appear of in dealy golf
	ited fint (neighbour) = 1) == 0:
	sited [int(neighbour)-1] = 1
	vene append (neighbour)
DFS_VISITED (noilphbour, endpoint, visited, print	
For adjacency motions, L	ist,
while loop have O(IVI)	
while and for loop have 0 (2 deg(V)) = 0 (2 (Et)	
Traversing while loop will also traverse every edges of	
evertices. : I de	(v) = 2 E  : O( V  + 2 E )

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## P.on FOO(VI+E) enA

BFS (Task2): For adjacency Imatrix, while loop have O(N) for loop will traverse every vertices. . . O( [V])

... @ Complexity of BFS, O(|V|2)

## DFS (Task 3):

DFS\_VISIT(vertex, endpoint, visited, printed):

if endpoint in printed: Docturn visited [int(vertex)-1]=1 printed append (vertex)

For each neighbour inof vertex in graph.

if visited neighbour in visited:

DFS\_VISITED (neilahbour, endpoint, visited, printed) -

while and for loop have O() dog(v)) = O(2/01) Troversing while loop will also traverse every edges

exertices : I del (1) = 5/E/ : O(N/+ 3/E

DFS (endpoint, visited, printed!):
For each neighbour of
For each vertex in graph:
But sor Drished in printed in verteries.
break  (is vertex not in visited of of  DFS_VISIT (*vertex, endpoint, visited, printed)
The DFS algorithment to be winted the tried of seconds. Because victory road is entremled for from starting vertex.
victory road is entremly for from starting vertex.
BFS needs to traverse throughteilly snear 278
tohile For loop rung have O(1V1)  For every unvisited vertex we run DFS_VISIT.
The time complexity of For loop of DFS_VISIT is
O( Ideg (ne V)) brotsiv set
= O(2 E )
= 0 (IEI)
. Total time complexity = O( V + E )

For agacency matrix, (Photoirg, botier, triogbro) 270 For loop have time of complexity of O(1V) But for DFS\_VISIT it runs for all vertecies. (below the complex of O(V/2) The DFS algorithm goes to victory road first. Because victory road is extremly for from starting vertex. BFS needs to traverse through all nearest vertices

to reach & victory road. But with DFS, it goes

for depepest point Awhere it cal can easily find the victory road post ) ( | Flotal time complexity = O(1/1+|E|)