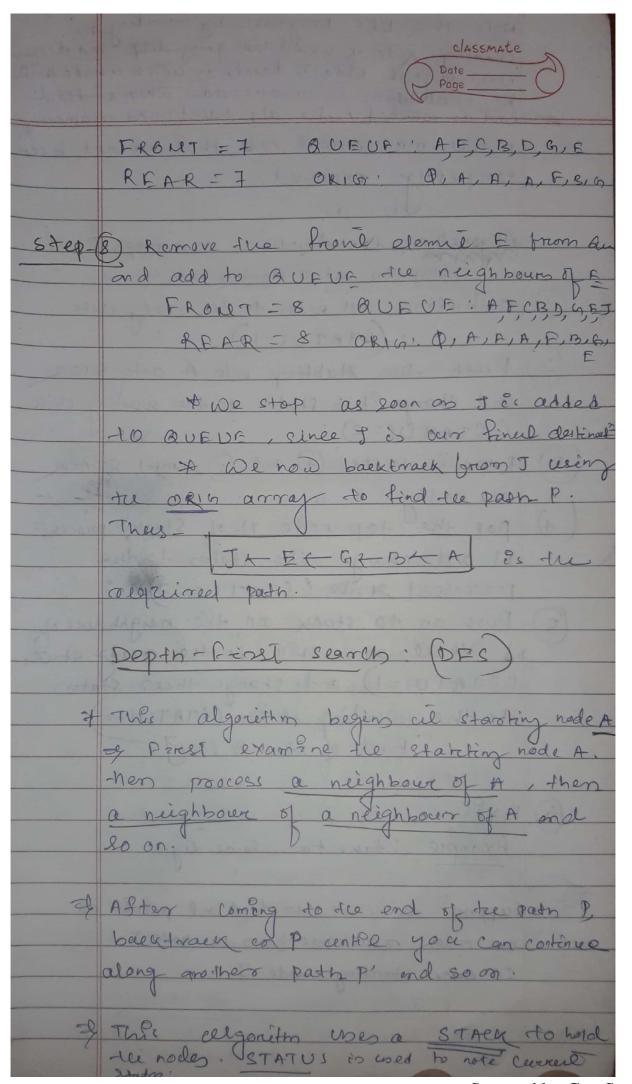
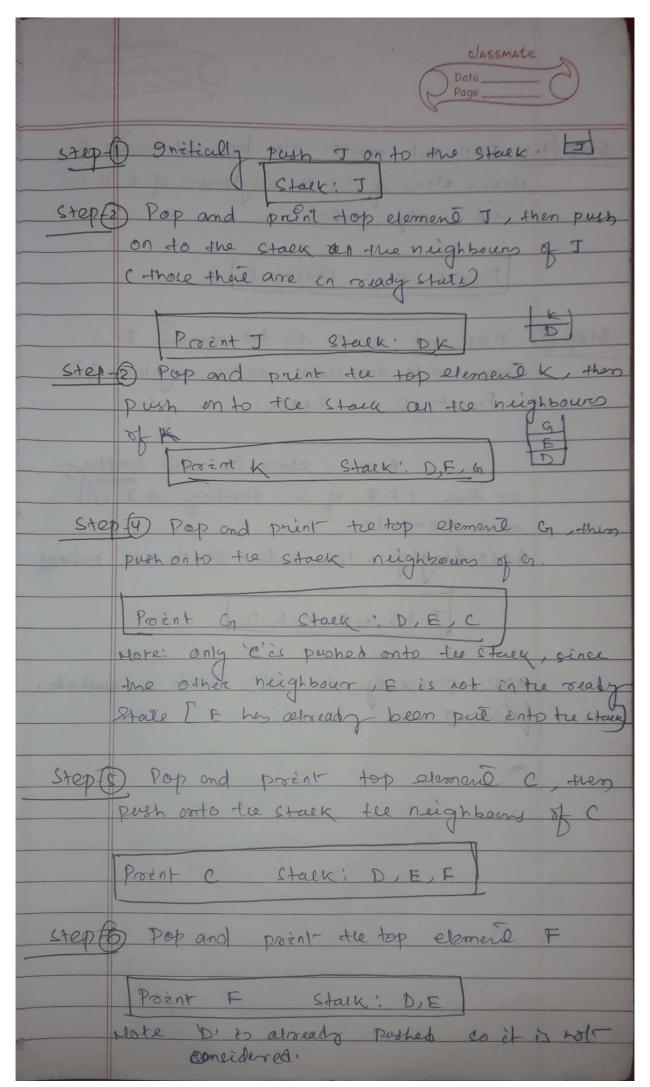
classmate Traversing a Graph I Day traversing means the method of examining the nodes and eager of the groups. of There are a standard metrodo of a graph 1 raversone 1) Broeadon-ferrot search (BFS) a) Depth - first search CDFS) During the execution of algorithms each node N of G well be en one of the three States, called the Status of N Status = 1: (Ready State) : The initial State ofta rode W Status = 2: (waiting state): The rode on the queue or story Daiting to be processed Status = 3: (processed state). The nod of has been processed. BFS (Broadth-Fired Search This search algorithm begin at the oot node and explores to all the neighbouring node of for enample it we start from root rodet then we examine all the neighbours of A then we examere at the neighbours of neighbours of A and so on, until et finds the youl. of Thes means that we need to track of the neighbours of a node ond gurantie that ever

classmate rode in the graph Es processed on 8 no node de processed mere than once. The es accomprished by using Queue to hold the nodes that and worling to be processed, and by using feeld STATUS which tens as the current steetors of any node. Algorithm: I) gnétialise on nods to the ready stule (STATUS =1) Pul the stabiling node A in queue and change it's status to the waiting stude STATUS = 2 3) Repend Steps (1) and (5) until quenu es empty: Remove the front node of of quelle-Process I and Change the status of N to the processed state: (STATUS= 3 5) Add to the rearr of queue au the neighbours of M their are on the ready state (STATUS=1) and change their statum to be waiting state (STM End of tu step 3 long 6) 6086



| a to the expanding to | |
|--|---------|
| Note: the DFS progress by expanding trees stored not stored and thus going dispositions | deen |
| until al goul node is founds on units a anol | & there |
| han no children Es encountered when a d | ead) |
| until al goul node is tount or trage when a d has no children es encountered. When a d end es oeached, the algorithmet has not | wining. |
| to the most record nade there has not | been |
| completely explored. | |
| | |
| Apgariethm: executes DES on a grouph B | at a |
| beginner at a started | |
| D'oritializa an nodes to the ready strè | e |
| (STATUS =1) | |
| (2) Push the statisting node A onto ST. and Change, Et is status to the waiting (STATUS=2). | Hex |
| and Change Et is steeton to the waiting | Stara |
| (STATUS=2). | |
| (3) Repend steps (2) and (5) until STA | ek |
| is empty. | |
| (4) pop the top node N of Stack pro | cess |
| M and change et's status to the | |
| processed state (STATUS = 3) | |
| | 15 |
| Dush on to stack on the neighbour | 5 |
| [CTATIN-1] and change their of | of the |
| (STATUS=1) and change their stat | |
| to the waiting stule (STATUS=2) | 1 10 |
| Frd of step 3 loop] | |
| (C) 11.29C | |
| 6 Rysr. | |
| Example : take tre some dig. | |
| | |
| suppose we want to tend and preint as | |
| the nodes realhable from the node J. | 1499 |
| SO our Starting node=J | |
| | |
| District search was a server to held | |
| The modern of the second of th | 3 1/8 |



classmate Step (7) pop and parent to top element to Nobe: (None of the 3 neighborens of E is is) the ready stale) Proint E Stack: D Step (8) Pop and print to top elament D push on to the stack, an the neighbours of D Point D Stalk: A The Stack is now empter so the DFS of G Starting out I is now complete. Accordingly, to hades which are printer JIK, G, C, F, E,D are precisely the nodes which are machable grow J