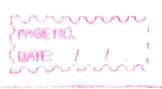
SAUMYA GUPTA PAGENO. 210089 Savie / Low Solution of Problem 3 We can modify Djiksten's algoritem form of min-hed, named, a. Now, croate a vector "dist" which store minimum borndwidts to look ouch switching center from a 2 mixialise all entries in "dist" to INT-MAX (i.e. rad) Enquere a into a units provis a While Q is not empty: - Dequare a suitering conteren & from Q with minimum priority (c.e, top of min- book). - If vis le, we can stop the algorithm and sotien the minimum bundwidte stored in diet [li] as mor brandwidts con of path from a tol. TEN each volificour well avoma sivas minds minimum landwidts of the edgement lieuen and is and min bandwidts stored in dist[v] - I of this minimum bandurde is less then minim landwicks stald & dist CW2, appeare dist Cw2 noises this new minum bandwidte and w

into Q with prioring why

If the algo reaches this point, it means
there is no path from a to b.

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Solution of Boldom-4

Initialise an empty set R to store transitive reduction edges.

For each wester a in. V, do the following:

- Perform DFS starting from U, visiting all precesable vertices

- During DES for ever warm writed verter v, morle v as violited.

This for form DES, if we encounter an edge (4, 6) rique e is cussent vertex and vis a violed vertex semove the edge (U, V) Grom

- Add edge CU, VI to the set R,

Greate a new groß a' worth some yestation as Grand edge, in R.

Time Complexety: Of DES-1 O(IVI-eLEI)

Se Color Cina, we have performed

DES for Varation,

T, Cof algrosithm = O(WXCIVIP(EI))