```
Q) Implement Diskstras algun to
                                   shotest path
                              find
                                                60
  Dijkstras : 1
                                                  topology.
 #include < stdio. h)
 # include < comio. h>
 # define INFINITY
                     799
 void dijkstra (int GEMAX) [MAX], int n, int stantnode);
 at debive MAX 10
  int 6 [MAX][MAX], i, j, n, u;
     Printf ("Enter no. of vertices");
      sant ("/d", 2n);
      Printf ("In Enter adjacency matrix: In");
                                     VISITED [nontruode] =
      bo) (i=0; icn; i++)
                                 (++) (N) (O) (H++)
           sant ("1.d", & 6[i][j]);
       18 (j=0; j cn; j++)
       Sant ("1.d, a "1.);
Prints ("Exter Starting node: ");
       scart ("/d", & w);
                                Pred [1] = vertugle;
       dijkstra (G, n, h);
       return oi
   Void dijkstra (int G[MAX)[MAX), int N, int startnode) {
   int cet [MAX][MAX], distance [MAX], pred[MAY];
   int visited [MAX], count, min distance, next mode, i,j;
   bo (1=0; icn; i++)
      to (j=0; j c n; j++)
         if (G[i][j] = = 0) .
           Cost [i][j] = INFINITY;
          else
            cost [i][j]= G[i][j];
    to (i=0; i<n; i++) {
      distance [i] = lost [startnode][i];
      Drea [i] = startnode;
        Visited [i] = 0 ;
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Parth by Bulgat indude estdio. h) !! distance [start node] =0; include < como, h > visited [start node ]= 1; define INFINITY 999 Court = 1; while (count ( n-1) { gepine with 10 mindistance = INFINITY XAMI (XAMI) DISTRICIO DI for (i=0; icn; i++) { if (distance[i] < mindistance ll visited[i]) { mindistance = distance[i]: int 6 [MAX][MAX], Printf (" Enter us. of next node = i; sant ("1.d": 201); Printf (" In Enter adjaconcy Visited [next node) = 1; to (i=o; icn; i++) (i=0) icn; i++) if (!visited [i]) [ if (!visited [i]) [ (++)

if (mindistance (next node [i]) < distance [i]) { distance [i] = undistance + Cost [next node][i]) Pred [i] = vertuode; start ("1.d", & vi); ditetaa (6, 11, 1); count++1 retion of F8 ( i= 0; 1 < b; i++) if ( i = start node) sind this = "Add", i) Points ("In Distance et mock /d = /d , 1,00 int visited (MAX), count, min distant j=1; (++i (N) 1001) 85 dos to (1=0; 1=1) ++) j= Pred[i]; (0==(i)(i)) ==0) 9 while (j!= starturo de); = [[][] + [] (St [1][1]= 6[1][1];

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SIP: Enter no. of vertices: 4

Enter adjacency matrix

o 0 | 1 | 1 |

1 | 0 | 0

2 | 1 | 0 |

2 | 1 | 0 |

Enter starting node: 1

Distance of 0 = 1

Path = 0 \in 1

Distance of 2 = 1

Path = 2 \in 1

Distance of 3 = 2

Path = 3 \in 0 \in 1