CHASSENAS NAME: TASMIYA FATHIMA USN: IBM19(5172 ADA LAB-TEST 1 SEC: 4 D Topological Borting (Using DFS) # unclude < stdio. h> # include < stdlib. h> unt a [10][10], n, indegen [10]; Void find-indegue () unt j, i, sum; for(j=0; j<n; j++) intelled by a trip sum = 0; (Con- IV/ wighter) for ( u = 0; icn; i++) sum + = a[i][j]; undegree [j] = sum; 3 11 is many desired all as their Void Topology () wait to be done aut i , u, v, t[10], s[10], dop =-1, k=0,

find\_ indegree ();

T. fathima

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youli=0, i(n;i++)
     y (mdigree [i] = = 0)
       S [++top]=i.
                             (Ul) way DES)
     while ( top! = -1)
      U = S[top -- ];
      t [k++]= u.
                             the first endaged ()
      for (v=0; v<n; v++)
       y (a [u][v] == 1)
                         (44) (as) on the
       indegree [V] --;
      if (indegree [v] = = 0)

S [++ top]= v;
                          inglider [1] from
    prints ("The hopological sequence is: \n");
      yor (i=0; i <n; i++)
       pouité (" 1. d", (+[i]+1));
```

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T. fathime

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  void main ()
    int i, j;
    penint (" Enter mumber of vectices:")
   Scarf (" 1.d", kn);
    puint (" In Enter the adjacuncy matrix: \n");
    for (i=0; i2n; i++)
    for (j=0; j(n; j++)
     scanf (" 1. d", 4 a [i)[j]);
     topology ();
              ( sour le removal)
   Modification
# undude < stdio.h >
int time [10], K=0;
Void topo (int n, unt indegree (10), unt a [10][10])
 for ( ist i-1; i = n; i++)
                                    T. fathim
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if (indegree [i] = = 0)
  undegree (i) = 1;
  temp [++ K] = i.
for (j=1; j <=n; j++)
                   & A sudiglu [j]!=-1)
   if (ari)(j) == 1
    undeglie [j] 1505 j
  i=0;
                       (111/11/20-11/20
ûnt i, j, n, indegen [10], a[10][10];
printly (" Enter the number of vertices:")
scanf (" y. d", kn);
 for (i=1; i = n; i++)
 printf (" In Enter the adjuency matrix (");
 for (i=1; i<=n; i++)
  for (j=1; j Gn; j++)
```

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scary ("", d", & a[i][j]);
 if (a[i][j]==1)
 undegle [j]++;
topo (n, videgue, a).
if (K!=n)
penuly (" to pological ordering is not possible \").
 painty I" in topological ordering is not possible in")
  pointf (" In topological ordering is: In").
  for (i=1; i <= K; i++)
  rount (" v1. d \t", temp [i]);
```

(5)

T. fathime.