Online 4 Set B

Instructions:

- Write the code by yourself. Do not adopt any unfair means (No internet, no previous resource, no class code, nothing except what you yourself wrote at the moment of exam.). **-100% Penalty for adopting any unfair means.**
- You **must** submit the code/codes in ELMS.

Implement the **following** algorithm for checking whether two vertices are connected or not in an *undirected unweighted* graph. The disjoint set has been already implemented in the attached file ***disjoint-set.cpp***.

```
CONNECTED_COMPONENTS(G)
    for each vertex v in V[G] do
        MAKE_SET (v)
    for each edge (u, v) in E[G] do
        if FIND_SET(u) != FIND_SET(v) then
            UNION(u, v)
```

```
SAME_COMPONENT(u, v)
    if FIND_SET(u) == FIND_SET(v) then
        return TRUE
    else return FALSE
```

Sample Input	Sample Output
#vertices #edges the edges of the graph n n pairs of vertices	
7 6 0 1 1 2 2 6 6 0 1 6 3 4 3 (n pairs of vertices) 0 3 1 6 2 5	0 and 3 are not in the same component 1 and 6 are in the same component 2 and 5 are not in the same component