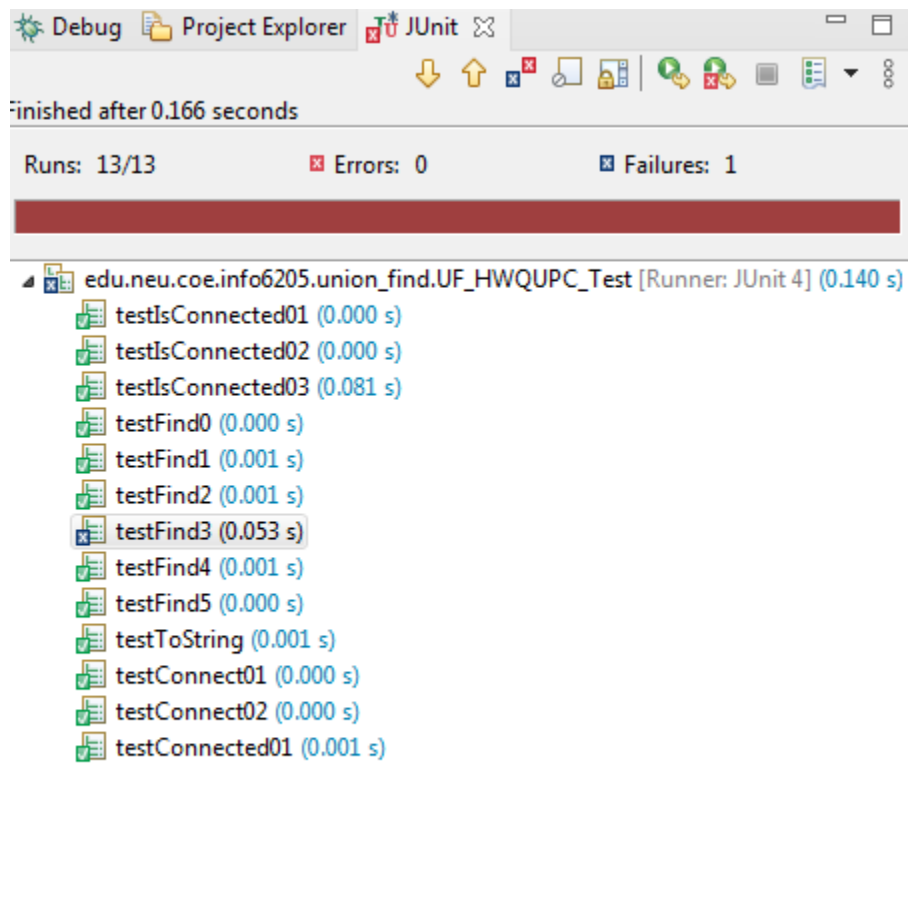


INFO 6205
Program Structures & Algorithms
Fall 2020
Assignment No. 3

- Union find height weighted quick union with path compression
- Unit test screenshot



- Time complexity
 - This algorithm takes time complexity **$O(\log n)$**
 - If there are 10 different sites on which we want to perform weighted quick union find with path compression then the maximum time system takes is $O(\log 10) = 1$ millisecond.
 - No of components reduced to 1 at the end.
 - Weighted quick union always puts smaller tree under larger tree.
 - At last all the individual components merge into single rooted graph.
- Relation between m and n
 - $m = n-1$ which mean no of connections are one less than total no of elements.
 - For 10 elements, there are maximum 9 connections possible.