Question:

Show the contents of the id[ ] array and the number of times the array is accessed for each input pair when you use quick-find, quick-union, weighted quick-union, weighted quick-union path compression, for the sequence of inputs 9-0 3-4 5-8 7-2 2-1 5-7 0-3 4-2.

Solution:

To solve the above problem we have four methods. They are

1. Quick Find
2. Quick Union
3. Weighted Quick Union
4. Weighted Quick Union Path Compression

Out of these four methods the "Weighted Quick Union Path Compression" path is the best. It is because the time complexity of is log*N.
log*N is much more faster than log N.