Assignment 4 Marking Scheme

1. (4 points) This set of test cases determines if the program can handle a trace with a single page entry. The program is to be executed for each of these test files for each replacement algorithm (LRU, LFU) and for frame size of 10. The number of faults reported should the same as the number of entries in each trace file.
   - Test 1, LRU, frames = 10 (1 page faults)
   - Test 1, LFU, frames = 10 (1 page faults)

2. (8 points) This set of test cases determines if the program can handle traces with more than one page entry and no repetitions. The test case is used when the number of frames is sufficient and when it is not sufficient.
   - Test 2, LRU, frames = 10 (3 page faults)
   - Test 2, LFU, frames = 10 (3 page faults)
   - Test 2, LRU, frames=2 (3 page faults)
   - Test 2, LFU, frames=2 (3 page faults)

3. (8 points) This set of test cases is used to determine if the program can deal with traces with repetition of a single page.
   - Test 3, LRU, frames=1 (2 page faults)
   - Test 3, LFU, frames=1 (2 page faults)
   - Test 3, LRU, frames=5 (2 page faults)
   - Test 3, LFU, frames=5 (2 page faults)

4. (8 points) This set of test cases should be used to determine if the program can deal with traces where each distinct page is repeated once.
   - Test 4, LRU, frames = 10 (3 page faults)
   - Test 4, LFU, frames = 10 (3 page faults)
   - Test 4, LRU, frames=2 (6 page faults)
   - Test 4, LFU, frames=2 (5 page faults)

5. (12 points) This set of test cases (as well as the rest) use different test cases with replications of pages and with replications occurring at different points of times.
   - Test 5, LRU, frames = 10 (5 page faults)
   - Test 5, LFU, frames = 10 (5 page faults)
   - Test 5, LRU, frames = 2 (6 page faults)
   - Test 5, LFU, frames = 2 (7 page faults)
   - Test 5, LRU, frames = 5 (5 page faults)
   - Test 5, LFU, frames = 5 (5 page faults)

6. (12 points)
   - Test 6, LRU, frames = 10 (3 page faults)
   - Test 6, LFU, frames = 10 (3 page faults)
   - Test 6, LRU, frames = 2 (3 page faults)
   - Test 6, LFU, frames = 2 (3 page faults)
   - Test 6, LRU, frames = 5 (3 page faults)
   - Test 6, LFU, frames = 5 (3 page faults)
7. (12 points)
   • Test 7, LRU, frames = 10 (5 page faults)
   • Test 7, LFU, frames = 10 (5 page faults)
   • Test 7, LRU, frames = 2 (6 page faults)
   • Test 7, LFU, frames = 2 (7 page faults)
   • Test 7, LRU, frames = 5 (5 pages faults)
   • Test 7, LFU, frames = 5 (5 page faults)

8. (12 points)
   • Test 8, LRU, frames = 10 (5 page faults)
   • Test 8, LFU, frames = 10 (5 page faults)
   • Test 8, LRU, frames = 2 (7 page faults)
   • Test 8, LFU, frames = 2 (8 page faults)
   • Test 8, LRU, frames = 5 (5 pages faults)
   • Test 8, LFU, frames = 5 (5 page faults)

9. (12 points)
   • Test 9, LRU, frames = 100 (49 page faults)
   • Test 9, LFU, frames = 100 (49 page faults)
   • Test 9, LRU, frames = 50 (49 page faults)
   • Test 9, LFU, frames = 50 (49 page faults)
   • Test 9, LRU, frames = 20 (49 pages faults)
   • Test 9, LFU, frames = 20 (49 page faults)

10. (12 points)
    • Test 10, LRU, frames = 100 (95 page faults)
    • Test 10, LFU, frames = 100 (95 page faults)
    • Test 10, LRU, frames = 50 (96 page faults)
    • Test 10, LFU, frames = 50 (95 page faults)
    • Test 10, LRU, frames = 20 (99 pages faults)
    • Test 10, LFU, frames = 20 (99 page faults)