Operating Systems - CS 4328

Project 3

Group Members

- Tyler Cummings - trc119
- Cameron Peterson - cnp23

Instructions

To compile the program, perform the following command:

`g++ main.cpp`

To run the program, perform the following command:

`./a.out`

To change the number of runs, edit the following line (line 14) in `main.cpp`:

`#define RUN_COUNT 10`

In the above case, the program will run 10 times, each with a different frame size between 1 and 30.

Results

The following is the redacted output of a single run of a.out:

```
*************** TEST 1 ***************

Number of page frames:   14
Page fault count:
        FIFO:           75
        LRU:            76
        OPTIMAL:        53


*************** TEST 2 ***************

Number of page frames:   11
Page fault count:
        FIFO:           79
        LRU:            79
        OPTIMAL:        55


*************** TEST 3 ***************
```

```
Number of page frames:  14
Page fault count:
        FIFO:           74
        LRU:            71
        OPTIMAL:        49


*************** TEST 4 ***************

Number of page frames:  13
Page fault count:
        FIFO:           72
        LRU:            74
        OPTIMAL:        55


*************** TEST 5 ***************

Number of page frames:  19
Page fault count:
        FIFO:           59
        LRU:            60
        OPTIMAL:        42


*************** TEST 6 ***************

Number of page frames:  12
Page fault count:
        FIFO:           84
        LRU:            81
        OPTIMAL:        56


*************** TEST 7 ***************

Number of page frames:  23
Page fault count:
        FIFO:           60
        LRU:            63
        OPTIMAL:        46


*************** TEST 8 ***************

Number of page frames:  6
Page fault count:
        FIFO:           91
        LRU:            92
        OPTIMAL:        71
```

```
*************** TEST 9 ***************

Number of page frames:  2
Page fault count:
        FIFO:           96
        LRU:            96
        OPTIMAL:        85

*************** TEST 10 ***************

Number of page frames:  17
Page fault count:
        FIFO:           74
        LRU:            75
        OPTIMAL:        51
```
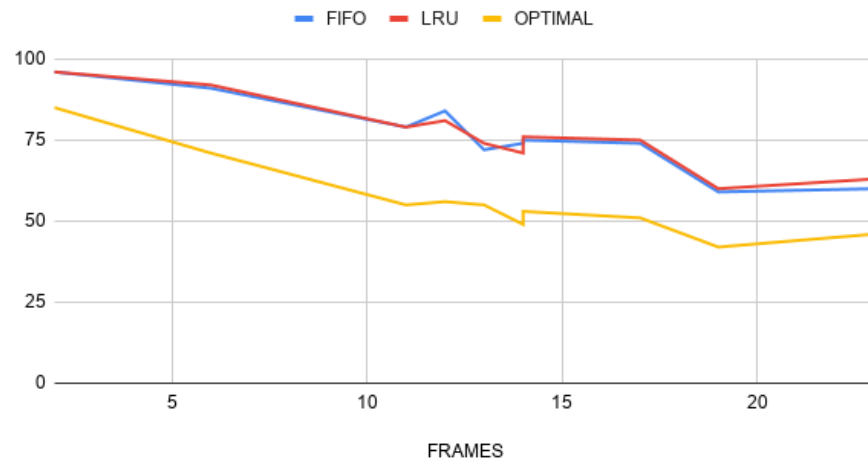
The following chart reflects the results of the aforementioned run:

The y-axis reflects the number of faults whereas the x-axis pertains to the frame size.