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Assignment 3

7.

cmdFile1			cmdFile2		
Algo	Run 1 page faults	Run 2 page faults	Algo	Run 1 page faults	Run 2 page faults
FIFO	479	481	FIFO	11	11
LRU	378	379	LRU	9	9
CLOCK	450	449	CLOCK	11	11

I ran each Algorithm (FIFO, LRU, CLOCK) with each cmdFile using confFile1. With all the algorithms, as the total number of memory accesses decreased, so did the number of page faults. cmdFile1, had 1303 memory accesses, and cmdFile2 had 202 memory accesses. We can see how the number of page faults increases with the number of memory accesses as should be expected. I ran cmdFile1 and cmdFile2 with confFile1 for this series of tests. I noticed that as the total number of memory accesses decreased, so did the number of page faults with all three page replacement algorithms. The first file, cmdFile1, had a total number memory access equaling to 1303 and cmdFile2 had 202. This is a significant difference and can be observed in the number of page faults. With both cmdFiles, FIFO had the highest number of page faults, LRU had the least and CLOCK had a number somewhere in between FIFO and LRU.

8.

	ConfFile1		ConfFile2		ConfFile3		ConfFile4		ConfFile5	
Algo	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2
FIFO	479	481	50	49	46	44	24	26	17	19
LRU	378	379	46	47	42	42	17	14	3	6
CLOCK	450	449	50	50	40	39	26	24	17	17

I used cmdFile1 for testing on all the algorithms and confFiles. We see that the number of page faults decreases as the number of physical pages (frames) allocated are increased. We see that the confFile that had the least amount of frames (four) was confFile1. FIFO had as much as 481 page faults on that confFile, whereas confFile5 had 16 physical pages and FIFO had as little as 17 page faults. This same pattern was observed for both LRU and CLOCK algorithms. For all five confFiles, LRU had the least number of page faults and followed the same pattern as seen in Q7.