========== **Test Parameters Setting**==========

command line format : mem-sim pages quantum pr-policy trace-file

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mem-size: ./simulator (not observing processing)
./simulator1(observing processing)
pages: integer>=0
quantum: >=0
pr-policy: 'fifo' or 'lru' or '2ch-alg' or 'my-alg'

Attention: In the same folder, you are supposed to include the simulator c-file, 'cse356header.h', your .mem files and your trace-file.

==========**Normal Test Results**==========
(Time is measured in second.)

effect-time	small	12.91
	big	128.51994

(1) FIFO page replacement

FILE	memsize	quantum	Elapsed-time	Idle-time	Page fault
small	50	10000	2182.81579	2169.90579	1176785
		50000	2182.81579	2169.90579	1176785
		200000	2182.81579	2169.90579	1176785
	500	10000	15.86125	2.95125	1000
		50000	16.14670	3.23670	1000
		200000	16.21593	3.30593	1000
	5000	10000	15.86125	2.95125	1000
		50000	16.14670	3.23670	1000
		200000	16.21593	3.30593	1000
	50	10000	6438.03297	6309.51303	11661975
		50000	6438.03297	6309.51303	11661975
		200000	6438.03297	6309.51303	11661975
		10000	3758.71126	3630.19132	7197773

big	500	50000	3760.18550	3631.66556	7200398
		200000	3760.48966	3631.96972	7201092
	5000	10000	147.72635	19.20641	9973
		50000	148.40971	19.88977	9973
		200000	148.59917	20.07923	9973

(2)LRU page replacement

FILE	memsize	quantum	Elapsed-time	Idle-time	Page fault
small	50	10000	2183.67686	2170.76686	1177012
		50000	2183.67686	2170.76686	1177012
		200000	2183.67686	2170.76686	1177012
	500	10000	15.88180	2.97180	1031
		50000	16.14442	3.23442	1027
		200000	16.21355	3.30355	1028
	5000	10000	15.86125	2.95125	1000
		50000	16.14670	3.23670	1000
		200000	16.21593	3.30593	1000
big	50	10000	6376.97318	6248.45324	11623279
		50000	6376.97318	6248.45324	11623279
		200000	6376.97318	6248.45324	11623279
	500	10000	3119.86292	2991.34298	5946411
		50000	3130.26467	3001.74473	5967999
		200000	2898.31417	2769.79423	5504461
	5000	10000	147.72635	19.20641	9973
		50000	148.40971	19.88977	9973
		200000	148.59917	20.07923	9973

(3) second-chance page replacement

FILE	memsize	quantum	Elapsed-time	Idle-time	Page fault

small	50	10000	2183.07374	2170.16374	1176639
		50000	2183.07374	2170.16374	1176639
		200000	2183.07374	2170.16374	1176639
	500	10000	15.86064	2.95064	1010
		50000	16.14614	3.23614	1013
		200000	16.21536	3.30536	1014
	5000	10000	15.86125	2.95125	1000
		50000	16.14670	3.23670	1000
		200000	16.21593	3.30593	1000
big	50	10000	6393.09626	6264.57632	11638879
		50000	6393.09626	6264.57632	11638879
		200000	6393.09626	6264.57632	11638879
	500	10000	3276.24258	3147.72264	6257068
		50000	3331.24120	3202.72126	6365451
		200000	3345.83377	3217.31383	6394948
	5000	10000	147.72635	19.20641	9973
		50000	148.40971	19.88977	9973
		200000	148.59917	20.07923	9973

(4) my page replacement

FILE	memsize	quantum	Elapsed-time	Idle-time	Page fault
small	50	10000	2186.20438	2173.29438	1178698
		50000	2185.66519	2172.75519	1178698
		200000	2185.66519	2172.75519	1178698
	500	10000	15.88180	2.97180	1031
		50000	16.14442	3.23442	1027
		200000	16.21362	3.30362	1027
	5000	10000	15.86125	2.95125	1000
		50000	16.14670	3.23670	1000
		200000	16.21593	3.30593	1000

big	50	10000	6495.70969	6367.18975	11636953
		50000	6495.70969	6367.18975	11636953
		200000	6495.70969	6367.18975	11636953
	500	10000	3076.97930	2948.45936	5862326
		50000	3188.74571	3060.22577	6084821
		200000	3047.33661	2918.81667	5805834
	5000	10000	147.72635	19.20641	9973
		50000	148.40971	19.88977	9973
		200000	148.59917	20.07923	9973

From my test results, we could draw following deductions:

[1] Based on results on big_trace_file:

For FIFO: when chosen properly, keep memory size not change, then page faults exist more when quantum is larger; keep quantum not change, then page faults exist more when memory size is smaller.

For LRU: when chosen properly, keep memory size not change, then page faults exist less when quantum is larger; keep quantum not change, then page faults exist more when memory size is smaller.

For 2ch: mostly same as FIFO.

For my-alg: mostly same as LRU.

[2] When keep memory size, quantum and trace file not change, we can find that the performance ordering of these page replacement algorithm is:(from best to worst) lru>my-alg>2ch-alg>fifo.

==========Exit on Error Input==========