

swapsize = 10000

table

traceprogs/tr-simpleloop.ref

```
lgorithmslmemsizeHit rateHit countMiss countOverall eviction countClean eviction countDirty eviction count
:-:1:-:1:-:1:-:1:-:1:-:1:-:1
randl50l72.5937l7904l2984l2934l342l2592l
randl100l74.5775l8120l2768l2668l167l2501l
randl150l75.1102l8178l2710l2560l132l2428l
randl200l75.1010l8177l2711l2511l192l2382l
IFIFOl50l72.7223l7918l2970l2920l317l2603l
IFIFOl100l74.7061l8134l2754l2654l158l2496l
IFIFOl150l75.0827l8175l2713l2563l129l2434l
IFIFOl200l75.1561l8183l2705l2505l125l2380l
ILRUl50l74.5408l8116l2772l2722l197l2525l
ILRUl100l75.3766l8207l2681l2581l114l2467l
ILRUl150l75.3949l8209l2679l2529l112l2417l
ILRUl200l75.3949l8209l2679l2479l112l2367l
ICLOCKl50l74.3479l8095l2793l2743l212l2531l
ICLOCKl100l75.3766l8207l2681l2581l111l2468l
ICLOCKl150l75.3674l8206l2682l2532l112l2420l
ICLOCKl200l75.3857l8208l2680l2480l112l2368l
OPTl50l75.2021l8188l2700l2650l132l2518l
OPTl100l75.3949l8209l2679l2579l112l2467l
OPTl150l75.3949l8209l2679l2529l112l2417l
OPTl200l75.3949l8209l2679l2479l112l2367l
```

traceprogs/tr-matmul.ref

```
lgorithmslmemsizeHit rateHit countMiss countOverall eviction countClean eviction countDirty eviction count
:-:1:-:1:-:1:-:1:-:1:-:1:-:1
randl50l65.5784l189429l199430l199425l1955512l38739l
randl100l88.7936l2564886l323706l323606l316l19717409l
randl150l96.6589l2792080l96512l96362l94080l2282l
randl200l98.0552l2832415l56177l55977l54429l1548l
IFIFOl50l60.9755l1761332l1127260l1127210l1083347l43863l
IFIFOl100l62.4889l1805050l1083542l1083442l1061336l22106l
IFIFOl150l98.8090l2854188l34404l34254l33057l1197l
IFIFOl200l98.8270l2854709l33883l33683l32547l1136l
ILRUl50l63.9543l1847378l1041214l1041164l1040188l976l
ILRUl100l65.1578l1882142l1006450l1006350l1005388l962l
ILRUl150l98.8617l2855710l32882l32732l31770l962l
ILRUl200l98.8621l2855722l32870l32670l31708l962l
ICLOCKl50l63.9534l1847354l1041238l1041188l1040205l983l
ICLOCKl100l63.9607l1847564l1041028l1040928l1039964l964l
ICLOCKl150l98.8505l2855388l33204l33054l32088l966l
ICLOCKl200l98.8611l2855693l32899l32699l31735l964l
OPTl50l79.2573l2289420l599172l599112l598156l966l
OPTl100l96.4197l2785171l10342l110332l1102359l962l
OPTl150l99.0069l2859905l28687l28537l27575l962l
OPTl200l99.1844l2865034l23558l23358l22396l962l
```

traceprogs/tr-blocked.ref

```
lgorithmslmemsizeHit rateHit countMiss countOverall eviction countClean eviction countDirty eviction count
:-:1:-:1:-:1:-:1:-:1:-:1:-:1
randl50l99.6550l2410439l8345l8295l5923l2372l
randl100l99.7839l2413557l5227l5127l3506l1621l
randl150l99.8207l2414447l4337l4187l2857l1330l
randl200l99.8407l2414931l3853l3653l2430l1223l
IFIFOl50l99.7322l2412306l6478l6428l4298l2130l
IFIFOl100l99.8209l2414453l4331l4231l2872l1359l
IFIFOl150l99.8255l2414563l4221l4071l2768l1303l
IFIFOl200l99.8689l2415613l3171l2971l1993l978l
ILRUl50l99.7844l2413570l5214l5164l2944l2220l
ILRUl100l99.8437l2415004l3780l3680l2718l962l
ILRUl150l99.8443l2415017l3767l3617l2675l942l
ILRUl200l99.8474l2415093l3691l3491l2549l942l
ICLOCKl50l99.7829l2413534l5250l5200l2986l2214l
ICLOCKl100l99.8347l2414786l3998l3898l2727l1171l
ICLOCKl150l99.8371l2414845l3939l3789l2690l1099l
ICLOCKl200l99.8675l2415579l3205l3005l2061l944l
OPTl50l99.8434l2414995l3789l3191l2765l974l
OPTl100l99.8639l2415493l3291l2230l961l
OPTl150l99.8929l2416194l2590l2440l1501l939l
OPTl200l99.9021l2416417l2367l2167l1228l939l
```

One paragraph comparing the various algorithms in terms of the results you see in the tables:

We can see from the tables above:

1. As hit rate increases, clean eviction decreases.
2. As memsize increases, dirty eviction count increases.
3. OPT algorithm produces highest hit rate, because it swaps out the page whose next use will occur farthest in the future.
4. Algorithm ranking: opt > clock > lru > fifo > rand

A second paragraph explaining the data you obtained for LRU as the size of memory increases:

When memsize increases, hit rate of LRU also increases. But when it hit certain point, the hit rate will slowly decrease. When there's enough memory, memory is not a concern for LRU anymore. The data that is more frequently accessed has been stored in memory because LRU swap out the least used ones. Thus, when it runs, its hit rate is relatively higher than others.