

NachOS - Assignment 3  
**Page Replacement Algorithms**

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## 1. VMtest1

### 1.1 Random

NumPhysPages	Number of Page Faults	TotalTime
16	2142	372651
32	1962	3476057
64	1552	3042272
128	964	2413210
256	549	1966669
512	376	1780259

### 1.2 FIFO

NumPhysPages	Number of Page Faults	TotalTime
16	2385	3937342
32	2055	3582490
64	1732	3235035
128	1247	2717559
256	381	1786515
512	376	1780259

### 1.3 LRU

NumPhysPages	Number of Page Faults	TotalTime
16	2021	3635424
32	1898	3412456
64	1665	3158681
128	1225	2691542
256	376	1784992
512	376	1780259

## 1.4 LRU-CLOCK

NumPhysPages	Number of Page Faults	TotalTime
16	2021	3542564
32	1898	3414487
64	1666	3161984
128	1225	2692476
256	379	1784456
512	376	1780259

## 2. VM2

### 2.1 Random

NumPhysPages	Number of Page Faults	TotalTime
16	744	1232100
32	637	1115053
64	587	1062317
128	482	947892
256	414	874879
512	377	835389

### 2.2 FIFO

NumPhysPages	Number of Page Faults	TotalTime
16	735	1220783
32	657	1137019
64	596	1071572
128	515	984397
256	381	840255
512	377	835389

## 2.3 LRU

NumPhysPages	Number of Page Faults	TotalTime
16	632	1123456
32	614	1092643
64	577	1049126
128	510	978765
256	380	839714
512	377	835389

## 2.4 LRU-CLOCK

NumPhysPages	Number of Page Faults	TotalTime
16	632	1110803
32	614	1089751
64	577	1048791
128	509	977066
256	380	839714
512	377	835389

## 3. Inference

- LRU-CLOCK takes much lesser time than LRU but gives an equivalent performance in terms of number of page faults.
- Random replacement is not reliable as it outperforms sometimes and under performs sometimes.
- LRU takes a lot of time because of the repeated list traversals .