

Page Replacement Algorithms

The goal of the replacement algorithm is to reduce the fault rate by selecting the best victim page to remove

- **FIFO - First In, First Out**
evict the oldest page in the system
- **LRU - Last Recently Used**
evict the page that has not been used for the longest time in the past
- **Second Chance**
an approximation of LRU (more implementable)

➔ Replacement algorithms are evaluated on a reference string by counting the number of page faults

FIFO - First In, First Out (with 3 physical pages)

➔ Evict the oldest page in the system

| Access | Hit/Miss | Evict | P0 | P1 | P2 |
|--------|----------|-------|----|----|----|
| 1 | Miss | | 1 | | |
| 2 | Miss | | 1 | 2 | |
| 3 | Miss | | 1 | 2 | 3 |
| 4 | Miss | 1 | 4 | 2 | 3 |
| 1 | Miss | 2 | 4 | 1 | 3 |
| 2 | Miss | 3 | 4 | 1 | 2 |
| 5 | Miss | 4 | 5 | 1 | 2 |
| 1 | Hit | | 5 | 1 | 2 |
| 2 | Hit | | 5 | 1 | 2 |
| 3 | Miss | 1 | 5 | 3 | 2 |
| 4 | Miss | 2 | 5 | 3 | 4 |
| 5 | Hit | | 5 | 3 | 4 |

● Total 9 misses