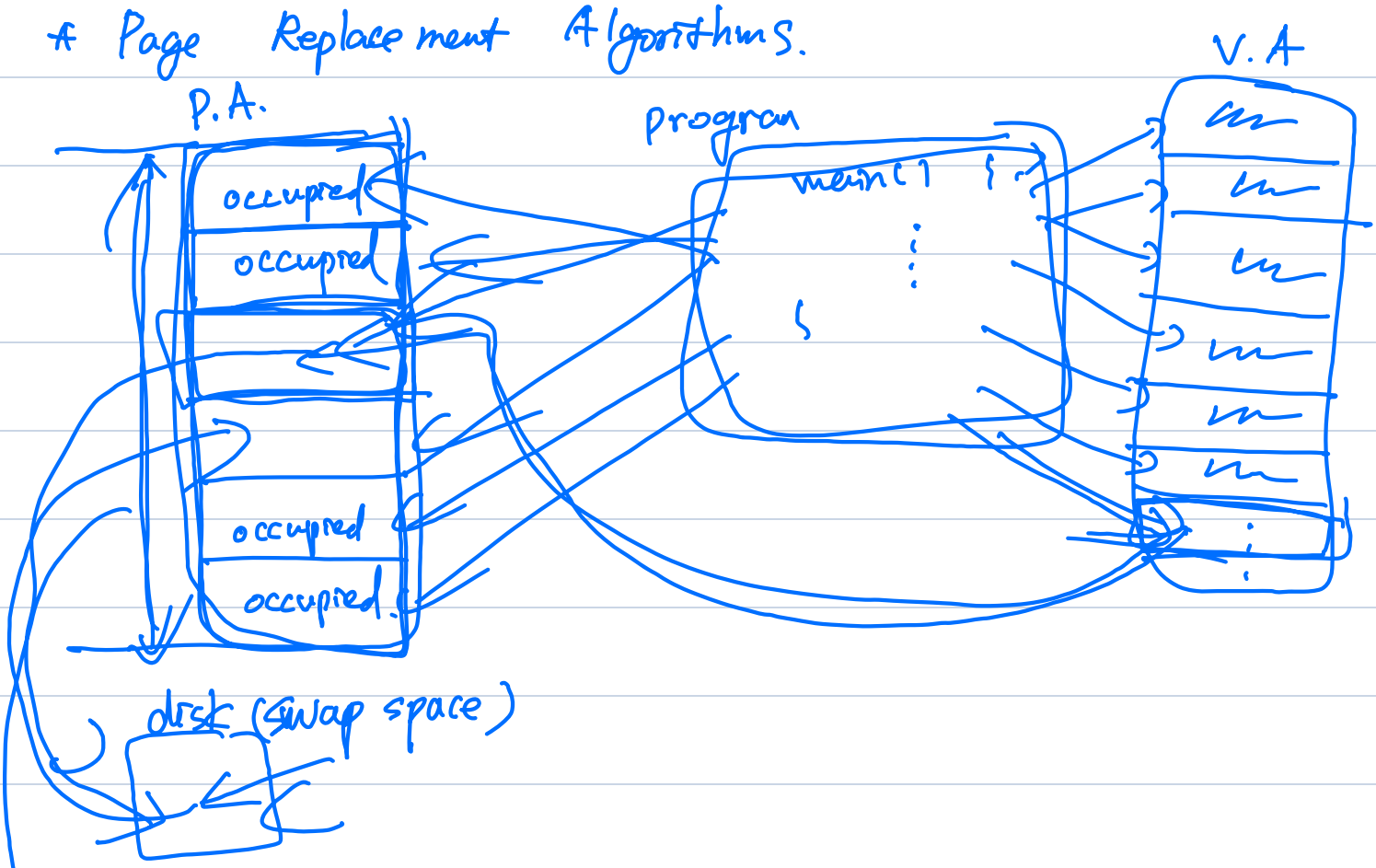
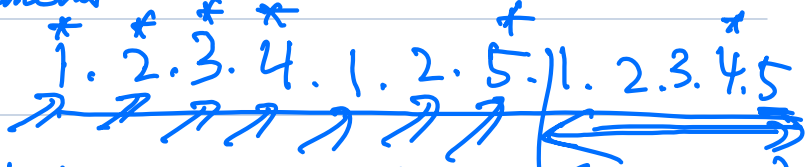
* Page Replacement Algorithms.

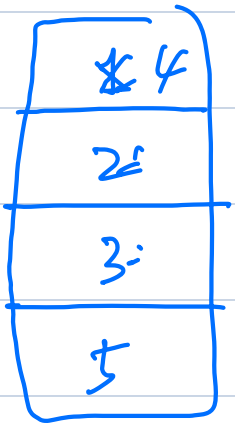


⇒ Page replacement

Choosing a page to replace : page replacement algorithm.

* Optimal Page Replacement

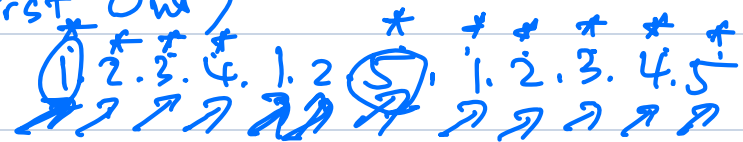




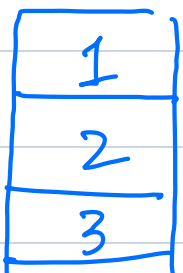
* No prediction is accurate.

6 page faults

* FIFO (First In First Out)



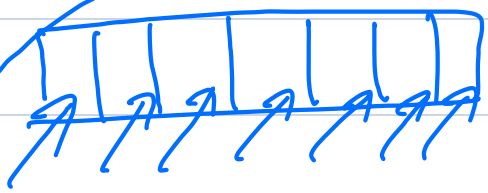
10 page faults.



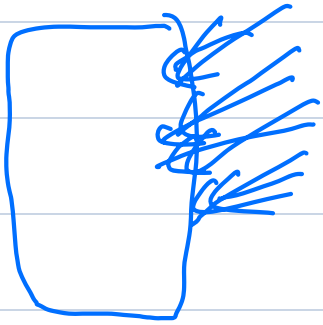
* Page fault ← minimize this.

* LRU (Least Recently Used)

* Locality { Spatial locality
Temporal locality



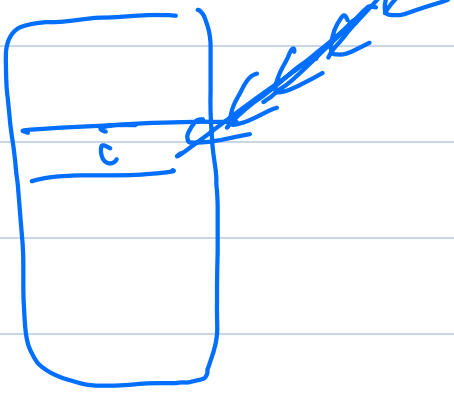
spatially close



access one location
⇒ likely access other locations in the same page.

for (int i=0 ; ... ; ...) { temporal locality.

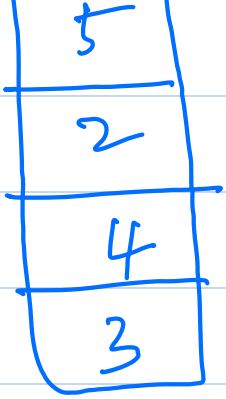
}



* Example

1. 2. 3. 4. 1. 2. 5. 1. 2. 3. 4. 5

(1) (1) (1) (1) (2) (2) (1) (3) (3) (1) (1) (1) ← access count



8 page faults

- Least Frequently Used.

* Second chance Algorithm