Group A
Experiment No. 5

Title :

Aim : To study and implement different page replacement algorithms

Theory :

In a computer operating system that uses paging for virtual memory management, page replacement algorithms **decide which memory pages to page out**, sometimes called swap out, or write to disk, when a page of memory needs to be allocated. .

Page Replacement Algorithms in Operating Systems

1. First In First Out (FIFO) – T .This is the simplest page replacement algorithm. In this algorithm, **the operating system keeps track of all pages in the memory in a** queue, the oldest page is in the front of the queue. When a page needs to be replaced page in the front of the queue is selected for removal

2. Optimal Page replacement – In this algorithm, pages are replaced which would not be used for the longest duration of time in the future.

   The theoretically optimal page replacement algorithm (also known as **OPT**, clairvoyant replacement algorithm, or Bélády's optimal page replacement policy) is an algorithm that works as follows: when a page needs to be swapped in, the operating system swaps out the page whose next use will occur farthest in the future

3. Least Recently Used : This algorithm stands **for "Least recent used"** and this algorithm helps the Operating system to search those pages that are used over a short duration of time frame. The page that has not been used for the longest time in the main memory will be selected for replacement.

   Comparative Study with Example :

   Flow Chart/ Algorithm :