FIFO Page Replacement Algorithm

import java.util.\*;

public class Fifo {

 public static void main(String[] args) {

 Scanner scanner = new Scanner(System.in);

 System.out.print("Enter the number of frames: ");

 int numberOfFrames = scanner.nextInt();

 System.out.print("Enter the number of pages: ");

 int numberOfPages = scanner.nextInt();

 System.out.print("Enter the page reference string (space-separated): ");

 int[] pageReferenceString = new int[numberOfPages];

 for (int i = 0; i < numberOfPages; i++) {

 pageReferenceString[i] = scanner.nextInt();

 }

 int[] frames = new int[numberOfFrames];

 Arrays.fill(frames, -1);

 int pageFaults = 0;

 int currentIndex = 0;

 for (int page : pageReferenceString) {

 boolean pageHit = false;

 for (int frame : frames) {

 if (frame == page) {

 pageHit = true;

 break;

 }

 }

 if (!pageHit) {

 frames[currentIndex] = page;

 currentIndex = (currentIndex + 1) % numberOfFrames;

 pageFaults++;

 }

 System.out.print("Frames: ");

 for (int frame : frames) {

 System.out.print(frame + " ");

 }

 System.out.println();

 }

 System.out.println("Total Page Faults: " + pageFaults);

 System.out.println(" Page Faults ratio: " + pageFaults +":"+numberOfPages);

 scanner.close();

 }

}

OUTPUT :

Enter the number of frames: 3

Enter the number of pages: 7

Enter the page reference string (space-separated): 1 3 0 3 5 6 3

Frames: 1 -1 -1

Frames: 1 3 -1

Frames: 1 3 0

Frames: 1 3 0

Frames: 5 3 0

Frames: 5 6 0

Frames: 5 6 3

Total Page Faults: 6

Page Faults ratio: 6:7