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import java.util.*;

public class FIFO {

    static Scanner scanner = new Scanner(System.in);

    public void FIFOImplementation(int pages[], int capacity) {

        int pageFaults = 0;

        HashMap<Integer, Integer> map = new HashMap();

        HashSet<Integer> currentSet = new HashSet();

        for(int i = 0 ; i < pages.length; i++) {

            if(currentSet.size() < capacity) {

                if(!currentSet.contains(pages[i])) {

                    currentSet.add(pages[i]);

                    pageFaults++;

                }

                map.put(pages[i],i);

            }

            else {

                if(!currentSet.contains(pages[i])) {

                    Iterator<Integer> it = currentSet.iterator();

                    int fifo = Integer.MAX_VALUE;

                    int val = 0;

                    while(it.hasNext()) {

                        int temp = it.next();

                        if(map.get(temp) < fifo) {

                            fifo = map.get(temp);

                        }

                    }

                }

            }

        }

    }

}
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        val = temp;
    }

}

currentSet.remove(val);

map.remove(val);

map.put(pages[i],i);

currentSet.add(pages[i]);

pageFaults++;

}

}

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

int pageHits = pages.length - pageFaults;

System.out.println("Page Hits: "+pageHits);

System.out.println("Hit Ratio: "+pageHits + "/" + pages.length + " = " +
(double)pageHits/pages.length);

}

public static void main(String[] args) {

    int capacity, n, pages[];

    // int pages[] = {7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1};

    FIFO fifo = new FIFO();

    System.out.print("Enter capacity of page frame: ");

    capacity = scanner.nextInt();

    System.out.print("Enter number of page sequence: ");

    n = scanner.nextInt();
}

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pages = new int[n];

System.out.print("Enter values (space separated): ");
for(int i = 0 ; i < n ; i++) {
    pages[i] = scanner.nextInt();
}

fifo.FIFOImplementation(pages, capacity);

}
```