

```
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);
```

```

        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();
}

```

```
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);
```

```
}
```

```
}
```