

```

import java.io.*;

public class _12_13_fifo {

    public static void main(String[] args) throws IOException
    {
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

        int frames, pointer = 0, hit = 0, fault = 0, ref_len;

        int buffer[];

        int reference[];

        int mem_layout[][];

        System.out.println("Please enter the number of Frames: ");
        frames = Integer.parseInt(br.readLine());

        System.out.println("Please enter the length of the Reference string: ");
        ref_len = Integer.parseInt(br.readLine());

        reference = new int[ref_len];
        mem_layout = new int[ref_len][frames];
        buffer = new int[frames];
        for(int j = 0; j < frames; j++)
            buffer[j] = -1;

        System.out.println("Please enter the reference string: ");
        for(int i = 0; i < ref_len; i++)
        {
            reference[i] = Integer.parseInt(br.readLine());
        }

        System.out.println();
        for(int i = 0; i < ref_len; i++)
    
```

```

{
    int search = -1;
    for(int j = 0; j < frames; j++)
    {
        if(buffer[j] == reference[i])
        {
            search = j;
            hit++;
            break;
        }
    }
    if(search == -1)
    {
        buffer[pointer] = reference[i];
        fault++;
        pointer++;
        if(pointer == frames)
            pointer = 0;
    }
    for(int j = 0; j < frames; j++)
        mem_layout[i][j] = buffer[j];
}

for(int i = 0; i < frames; i++)
{
    for(int j = 0; j < ref_len; j++)
        System.out.printf("%3d ",mem_layout[j][i]);
    System.out.println();
}

```

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System.out.println("The number of Hits: " + hit);  
System.out.println("Hit Ratio: " + (float)((float)hit/ref_len));  
System.out.println("The number of Faults: " + fault);  
}  
  
}
```