Write a program for Optimal page replacement algorithm.

Inputs: Page Reference String – 7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1

Pages frames: 3

Initially all page frames are empty.

Output format:

**Page Reference Hit/miss Page frame status**

7 Miss 7-empty-empty

0 Miss 7-0-empty

1 Miss 7-0-1

2 Miss 2-0-1

0 Hit

3 Miss 2-0-3

0 Hit

4 Miss 2-4-3

2 Hit

3 Hit

Also, print the total number of page faults.

Consider an input data set and show how an increase in page frames affects the number of page faults.