

NAME: Siddhesh Avinash Dhinge
ROLL NO.: 33310
CLASS: TE11
BATCH: L11

CODE:

```
#include <stdio.h>
#include <stdbool.h>

bool isPresent(int frame[], int n){
    for(int i=0;i<3;i++){
        if(frame[i]==n){
            return true;
        }
    }
    return false;
}

void display(int frame[]){
    for(int i=2;i>=0;i--){
        if(frame[i] == -1){
            printf(" ");
        }else{
            printf("%d ", frame[i]);
        }
    }
}

void main(){
    int sequence[] = {1, 3, 0, 3, 5, 6, 3}; // given reference string
    int frame[3] = {-1,-1,-1}; // frame - to store the reference string in frame
    int count = 0; // to count the page fault
    int first_index = 0; // to store the least used index

    for(int i=0;i<7;i++){
        // checking if i > frame_size i.e. 2(given) for checking frame is full or not
        if(i>2){
            // following checking if the element is ready present in frame or not. If present then don't
            push anything.
            if(isPresent(frame, sequence[i])){
                printf("%d -> ", sequence[i]);
                display(frame);
                printf(" HIT\n");
            }else{
                // if element is not present the at first_index of frame replace the element
                frame[first_index] = sequence[i];
                first_index++;
                printf("%d -> ", sequence[i]);
                display(frame);
                printf(" MISS\n");
                count++;
            }
        }
    }
}
```

```

    }
} else {
    // if frame is not full directly push the reference_string_element to frame(frame)
    frame[i] = sequence[i];          // pushing reference_string_element in frame
    // following code is for printing: reference_string_element -> frame_elements MISS/HIT
    printf("%d -> ", sequence[i]);
    display(frame);
    printf(" MISS\n");
    count++; // increasing the page fault number;
}
}

printf("\nTotal number of page fault = %d\n", count);
}

```

OUTPUT:

```

1 -> 1 MISS
3 -> 3 1 MISS
0 -> 0 3 1 MISS
3 -> 0 3 1 HIT
5 -> 0 3 5 MISS
6 -> 0 6 5 MISS
3 -> 3 6 5 MISS

```

```

Total number of page fault = 6

```