Comment:

1.In my code, I define page frames as a macro. When need to change page frame size, it need to queue.h,clock.h, lru.h. #define max_length 2

Comment:

I write 2 array,3 algorithm calling in main.c file. So when just need to run an algorithm, other algorithm calling need to be commented.

For example , I want to run Array 1 fifo algorithm.

```
    printf("arr1 fifo page replacement need %d page fault\n", count);
    //printf("arr1 clock page replacement need %d page fault\n", clock(arr1, n1));
    //printf("arr1 lru page replacement need %d page fault\n", lru(arr1, n1));

    // get arr2 fifo page replacement fault count
    count = 0;
    queue_init();
    for (i = 0; i < n2; i++) {
        //printf("arr[%d] = %d\n", i, arr2[i]);
        if (is_in_queue(arr2[i])) {
            //printf("%d in queue\n", arr2[i]);
            continue;
        }
        else {
            count++;
            if (queue_is_full()) {
                int n = de_queue();
                //printf("%d dequeue\n", n);
            }
            en_queue(arr2[i]);
            //printf("%d enqueque\n", arr2[i]);
        }
    }
    //printf("arr2 fifo page replacement need %d page fault\n", count);
    //printf("arr2 clock page replacement need %d page fault\n", clock(arr2, n2));
    //printf("arr2 lru page replacement need %d page fault\n", lru(arr2, n2));
```

printf("arr1 fifo page replacement need %d page fault\n", count);
//printf("arr1 clock page replacement need %d page fault\n", clock(arr1, n1));
//printf("arr1 lru page replacement need %d page fault\n", lru(arr1, n1));
//printf("arr2 fifo page replacement need %d page fault\n", count);
//printf("arr2 clock page replacement need %d page fault\n", clock(arr2, n2));
//printf("arr2 lru page replacement need %d page fault\n", lru(arr2, n2));

Array 1　　3 page frames fifo algor:

```
→  pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→  pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 fifo page replacement need 9 page fault
→  pageReplacement
```

Array 1　　3 page frames clock algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 clock page replacement need 8 page fault
→ pageReplacement
```

Array 1 3 page frames lru algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 lru page replacement need 8 page fault
→ pageReplacement
```

Array 2. 3 page frames fifo algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 fifo page replacement need 15 page fault
→ pageReplacement
```

Array 2. 3 page frames clock algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 clock page replacement need 14 page fault
→ pageReplacement
```

Array 2. 3 page frames lru algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 lru page replacement need 11 page fault
→ pageReplacement
```

Array 1 2 page frames fifo algor:

```
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 fifo page replacement need 10 page fault
→ pageReplacement
```

Array 1 2 page frames clock algor:

```
→ pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→ pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 clock page replacement need 10 page fault
→ pageReplacement
```

Array 1 2 page frames lru algor:

```
arr1 clock page replacement need 10 page fault
→  pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→  pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr1 lru page replacement need 10 page fault
→  pageReplacement
```

Array 2　2 page frames fifo algor:

```
→  pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→  pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 fifo page replacement need 15 page fault
→  pageReplacement
```

Array 2　2 page frames clock algor:

```
→  pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→  pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 clock page replacement need 15 page fault
→  pageReplacement
```

Array 2　2 page frames lru algor:

```
→  pageReplacement gcc lru.c queue.c clock.c main.c -o page_replacement
→  pageReplacement ./page_replacement
n1 = 12, n2 = 20
arr2 lru page replacement need 15 page fault
→  pageReplacement
```