Week-4

```
#include <stdio.h>
#include <stdlib.h>
#define size 5

int q[size], F = 0, r = -1;
int count = 0;

void enqueue (int item) {
    if (count == size) {
        printf ("\n Queue full!");
        return;
    }
    q [(++r) % size] = item;
    count++;
}

void dequeue () {
    if (count == 0) {
        printf ("\n Queue empty");
        return;
    }
    F = (F+1) % size;
    count--;
}
```

```
void display(){
    if(count == 0){
        printf("\n Queue empty!");
        return;
    }
    int front = f;
    for(int i=0; i<count; i++){
        printf("%d", q[front]);
        front = (front+1) % size;
    }
}
int main(){
    int ch, item;
    while(1){
        printf("\n Select choice \n 1. Enqueue
        \n 2. Dequeue \n 3. Display");
        scanf("%d", &ch);

        switch(ch){
        case 1:
            printf("\n Enter value to insert:");
            scanf("%d", &item);
            enqueue(item);
            break;
        case 2:
            dequeue();
            printf("\n Item popped");
            break;
            default:
        exit(0);
```

}
}
}

Output :

select choice :

1. Enqueue
2. Dequeue
3. Display

Choice: 1
Enter value: 3
Queue : 3
choice: 1

Enter value: 4
Queue : 3 4

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

struct node {
    int value;
    struct node * next;
};

void displaylinkedlist (struct node *p) {
    printf("printing linked list");
    while (p != null) {
        printf("%d", p -> value);
        p = p -> next;
    }
}

int main() {
    struct node * head = NULL;
    struct node * one = NULL;
    struct node * two = NULL;
    struct node * three = NULL;

    one = malloc (sizeof (struct node));
    two = malloc (sizeof (struct node));
    three = malloc (sizeof (struct node));
```

```
one->value = 1;
two -> value = 2;
three -> value = 3;

head = &one;
displayLinkedList(head);
}
```

Output

printing linked list

1

2

3