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Lab 3:

```
#include <stdio.h>
#include <stdlib.h>
# define MAX 3
int front = 0, rear = -1;
int queue [MAX];
void Enque (int*, int*);
void Deque (int*, int*);
void display (int*, int*);
void main ()
{
        int option, item;
        do {
```

```
printf("\n 1. Insert (enque)");
printf("\n 2. Delete (Deque)");
printf("\n 3. display entire");
printf("\n 4. exit \n");
printf("Enter the option :");
scanf("%d", &option);
switch (option)
{
    case 1: printf("Enter element \n");
            scanf("%d", &item);
            Enque (&item, &rear); break;
    case 2: item = Deque (&front, &rear);
            if (item == -1)
                printf("Queue empty \n");
            else
                printf("Removed elent from que: %d",
                                        item);
            break;
    case 3: display (&front, &rear); break;
    case 4: exit(0); break;
    }
} while (option != 4); return 0;
}
void Enque (int *ele, int *rear)
{
    if (*rear == MAX-1)
        printf("Queue is full \n");
    else
    {
        (*rear)++;
        queue [*rear] = *ele;
    }
}
```

```
int Deque (int *front, int *rear)
{
    int item;
    if (*front == -1)
        return -1;
    else
    {
        item = queue [*front];
        (*front)++;
        if (*front > *rear)
        {
            *front = -1;
            *rear = -1;
        }
        return item;
    }
}
void display (int *front, int *rear)
{
    int i=0;
    if (*front == -1)
        printf ("Queue is empty \n");
    else
    {
        printf ("\n Queue contents : ");
        for (i = *front; i <= *rear; i++)
            printf ("%d \t", queue [i]);
    }
}
```