

LAB - 3

➤ Write a program to ~~st~~ simulate the working of queue of integers using an array. Provide the following operations

- Insert Rear
- Delete front
- Display the contents of queue

```
#include <stdio.h>
#include <conio.h>
#include <process.h>
#define QUE_SIZE 3
int item, front = 0, rear = -1, q[10];
void insertrear()
{
    if (rear == QUE_SIZE - 1)
    {
        printf("Queue Overflow\n");
        return;
    }
    rear = rear + 1;
    q[rear] = item;
}
int deletefront()
{
    if (front > rear)
    {
        front = 0;
        rear = -1;
        return -1;
    }
    return q[front++];
}
```

```

}
void displayQ()
{
    int i;
    if (front > rear) {
        printf("Queue is empty\n");
        return;
    }
    printf(" ** Contents of Queue **\n");
    for (i = front; i <= rear; i++)
    {
        printf("%d\n", q[i]);
    }
}

void main() {
    int choice;
    for(;;)
    {
        printf("\n 1. insertion  2. delete front\n 3. display  4. exit\n");
        printf("Enter the choice\n");
        scanf("%d", &choice);
        switch (choice)
        {
            case 1: printf("enter the item to be inserted\n");
                    scanf("%d", &item);
                    insertrear(1);
                    break;

            case 2: item = deletefront();
                    if (item == -1)
                        printf("Queue is Empty\n");

```

else

printf(" ~~Queue~~ Item deleted = %d\n",  
item);

break;

Case 3 : displayAll;

break;

default : exit(0);

}  
}  
}