store
67

Lab 4

Circular Queue

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

```
        return item;
}
void displayQ()
{
  int i;
  if (count==0)
  {
    printf("Queue is empty\n");
    return;
  }
  printf("Contents of queue\n");
  for(i=1; i<=count; i++)
  {
    printf("%d\n", q[front]);
    front=(front+1)%Q_SIZE;
  }
}
void main()
{
  int choice;
  for(;;)
  {
    printf("\n1: insertrear\n2: deletefront
          \n3: display\n4: 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();
              break;
      case 2: item = deletefront();
              if(item==-1)
              printf("queue is empty\n");
              else
              printf("item deleted = %d\n", item);
              break;
      case 3: displayQ();
              break;
      default: exit(0);
    }
  }
}
```