Assignment Solutions | Queue-1 | Week 16

1. Ques: Design Circular Deque (Use Array / Vector) [Leetcode - 641]

Solution:

```
class MyCircularDeque {
public:
int *a;
int size,f,r;
MyCircularDeque(int k) {
size=k;
a=new int[size];
f=-1,r=-1;
}

bool insertFront(int value) {
if((r+1)%size==f)
return false;
if(f==-1&&r==-1)
{
f++;
r++;
a[f]=value;
return true;
}
f--;
f=(f+size)%size;
a[f]=value;
return true;


}
```

```
bool insertLast(int value) {
if((r+1)%size==f)
return false;
if(f==-1&&r==-1)
{
f++;
r++;
a[r]=value;
return true;
}
r++;
r%=size;
a[r]=value;
return true;

}
bool deleteFront() {
if(f==-1&&r==-1)
return false;
if(f==r)
{
f=-1;
r=-1;
return true;
}
f++;
f=f%size;
return true;

}
bool deleteLast() {
if(f==-1&&r==-1)
return false;
if(f==r)
{
f=-1;
r=-1;
return true;
}
r--;
r=(r+size)%size;
return true;

}
```

```
int getFront() {
if(isEmpty())
return -1;
return a[f];

}
int getRear() {
if(isEmpty())
return -1;
return a[r];
}
bool isEmpty() {
if(f==-1)
return true;
return false;

}
bool isFull() {
if((r+1)%size==f)
return true;
return false;

}
};
```
