

4) import java.util.*;
 public class MyDeque implements Deque<E> {

CSE 222
 Midterm Examination
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private ArrayList<E> arrayList;
 private int size;
 private int capacity;
 private int front;

public MyDeque() {

arrayList = new ArrayList<>();

size = 0;

capacity = 5;

front = 0;

public int size() {

return size;

}

public boolean offerFirst(E item) {

if (size == capacity)

reallocate();

if (size == capacity) {

size++; arrayList.set(0) = item; return true;

ArrayList<E> temp = new ArrayList<>();

temp.set(front) = item;

size++;

for (int i = 1; i < size; i++)

temp.set(i) = arrayList.get(front + i - 1);

arrayList = null;

arrayList = temp;

return true;

}

public boolean offerLast(E item) {

if (size == capacity) reallocate();

if (size == 0) { size++; arrayList.set(0) = item; return true; }

arrayList.set(size) = item;

size++;

return true;

}

CSE 222
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```
public E pollFirst() {  
    E temp = arrayList.get(front);  
    arrayList.set(front, null);  
    size--;  
    front = (front + 1) % Capacity;  
    return temp;  
}
```

```
public E pollLast() {  
    E temp = arrayList.get(size - 1);  
    size--;  
    arrayList.set(size, null);  
    return temp;  
}
```