

```
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public class Queue<E>
```

### **/\* Parameters \*/**

```
// Indicates the index of the element at the front of the queue  
private int front;
```

```
// Indicates the index of the element at the rear of the queue  
private int rear;
```

```
// Total size of the queue  
int size;
```

```
// Array of elements (of type E)  
E[] queue;
```

### **/\* Auxiliary methods \*/**

```
// Returns the number of elements in the queue  
// @return int  
int size();
```

```
// Returns true if the queue is empty, false otherwise  
// @return boolean  
boolean isEmpty();
```

### **/\* Manipulation methods \*/**

```
// Returns the first element of the queue  
// @return element: E  
// @throws QueueEmptyException;  
E first() throws QueueEmptyException;
```

```
// Adds the element to the rear of the queue  
// @param element: E  
void enqueue(E e);
```

```
// Removes and returns the first element of the queue  
// @return element: E  
// @throws QueueEmptyException;  
E dequeue() throws QueueEmptyException;
```