

# Dynamic Array Implementation

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# Chapter 1

## Class Index

### 1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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## Chapter 2

# Class Documentation

### 2.1 `DynamicArray< T >` Class Template Reference

#### Public Member Functions

- `DynamicArray ()`  
*Default Constructor.*
- `DynamicArray (int size)`  
*Constructor with an initial size.*
- `DynamicArray (int size, T initialData)`  
*Constructor with and initial size and initializing value.*
- `~DynamicArray ()`  
*Destructor.*
- `T pop ()`  
*This will remove the last element and will return it.*
- `T back ()`  
*This function will return the last element of the `DynamicArray`.*
- `T front ()`  
*This function will return the first element of the `DynamicArray`.*
- `T at (int index)`  
*This function will return the element stored at given index.*
- `T removeAt (int index)`  
*This function will remove the element stored at the given index.*
- `void push_back (T key)`  
*This function will add an element at last of the `DynamicArray`.*
- `void insertAt (int index, T key)`  
*This function will insert a value at given index.*
- `int size ()`  
*This function will return the size of the `DynamicArray`.*
- `int indexOf (T key)`  
*This function will return the index of an element in the `DynamicArray`, if found otherwise it will return -1.*
- `bool is_empty ()`  
*This function will return true if `DynamicArray` is empty else false.*
- `bool remove (T key)`  
*This function will remove an element from the `DynamicArray` if found and will return true else false.*
- `bool contains (T key)`  
*This will check whether given element is present in the Dynamic Array and will return true and false accordingly.*

## 2.1.1 Constructor & Destructor Documentation

### 2.1.1.1 `DynamicArray()` [1/2]

```
template<class T >
DynamicArray< T >::DynamicArray (
    int size )
```

Constructor with an initial size.

#### Parameters

<i>size</i>	The initial size of the dynamic array
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### 2.1.1.2 `DynamicArray()` [2/2]

```
template<class T >
DynamicArray< T >::DynamicArray (
    int size,
    T initialData )
```

Constructor with and initial size and initializing value.

#### Parameters

<i>size</i>	The initial size of the dynamic array
<i>initialData</i>	Initial value to initialize the array with.

## 2.1.2 Member Function Documentation

### 2.1.2.1 `at()`

```
template<class T >
T DynamicArray< T >::at (
    int index )
```

This function will return the element stored at given index.

#### Parameters

<i>index</i>	Index where we need to get the element from.
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### 2.1.2.2 `contains()`

```
template<class T >
bool DynamicArray< T >::contains (
    T key )
```

This will check whether given element is present in the Dynamic Array and will return true and false accordingly.

#### Parameters

<i>key</i>	Element which has to be check whether it is present in the dynamicArray or not.
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### 2.1.2.3 `indexOf()`

```
template<class T >
int DynamicArray< T >::indexOf (
    T key )
```

This function will return the index of an element in the `DynamicArray`, if found otherwise it will return -1.

#### Parameters

<i>key</i>	Element whose index has to be find
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### 2.1.2.4 `insertAt()`

```
template<class T >
void DynamicArray< T >::insertAt (
    int index,
    T key )
```

This function will insert a value at given index.

#### Parameters

<i>index</i>	Index where we need to insert the element
<i>key</i>	Value which has to be inserted

### 2.1.2.5 push\_back()

```
template<class T >
void DynamicArray< T >::push_back (
    T key )
```

This function will add an element at last of the [DynamicArray](#).

#### Parameters

<i>key</i>	The value which has to be added at the last of the <a href="#">DynamicArray</a> .
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### 2.1.2.6 remove()

```
template<class T >
bool DynamicArray< T >::remove (
    T key )
```

This function will remove an element from the [DynamicArray](#) if found and will return true else false.

#### Parameters

<i>key</i>	Element which has to be removed
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### 2.1.2.7 removeAt()

```
template<class T >
T DynamicArray< T >::removeAt (
    int index )
```

This function will remove the element stored at the given index.

#### Parameters

<i>index</i>	From where we need to remove the element
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The documentation for this class was generated from the following files:

- include/dynamicArray.h
- src/dynamicArray.cpp

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