

## My Project

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# Chapter 1

## File Index

### 1.1 File List

Here is a list of all documented files with brief descriptions:

sorting/bubblesort/ <a href="#">bubblesort.cpp</a>	
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## Chapter 2

# File Documentation

### 2.1 sorting/bubblesort/bubblesort.cpp File Reference

A program that implements bubblesort.

```
#include <iostream>
#include <vector>
```

#### Functions

- `template<class T >`  
`void swap (T &a, T &b)`  
*A helper templated function to swap two variables.*
- `template<class T >`  
`void bubblesort (std::vector< int > &vec)`  
*a templated function that bubblesorts the vector provided*
- `int main ()`

#### 2.1.1 Detailed Description

A program that implements bubblesort.

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#### Date

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Best case runtime:  $O(n^2)$  Average case runtime:  $O(n^2)$  Worst case runtime:  $O(n^2)$

## 2.1.2 Function Documentation

### 2.1.2.1 bubblesort()

```
template<class T >
void bubblesort (
    std::vector< int > & vec )
```

a templated function that bubblesorts the vector provided



**Parameters**

<code>in, out</code>	<code>vec</code>	is a vector that is to be sorted
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**Returns**

void

**2.1.2.2 swap()**

```
template<class T >
void swap (
    T & a,
    T & b )
```

A helper templated function to swap two variables.

**Parameters**

<code>in, out</code>	<code>a</code>	is the reference to the first variable
<code>in, out</code>	<code>b</code>	is the reference to the second variable

**Returns**

void



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