

Installing STL for Arduino

1. Download <https://github.com/maniacbug/StandardCplusplus/archive/master.zip>
2. Extract to libraries folder
 - a. Remove “-master” from folder name
3. Restart Arduino
4. Include these headers (after all others)

```
#include <system_configuration.h>
#include <utility.h>
#include <unwind-cxx.h>
#include <StandardCplusplus.h>
```



Objects & <algorithm>

Software Training

Defining a Class

```
class ClassName {  
public:  
    // public members here  
protected:  
    // protected members here  
private:  
    // private members here  
};
```

Defining a Class

```
class ClassName {  
public:  
    ClassName(); // Constructor  
    ~ClassName(); // Destructor  
}
```

Defining a Class

```
class Person {  
public:  
    Person(int age, std::string name)  
        : myAge(age),  
          myName(name)  
    {  
    }  
  
private:  
    int myAge;  
    std::string myName;  
}
```

Defining a Class

```
class Person {  
public:  
    Person(int age, std::string name)  
        : myAge(age),  
          myName(name)  
    {  
    }  
  
private:  
    int myAge;  
    int myName;  
}
```

Demo

<algorithm>

The header <algorithm> defines a **collection of functions** especially designed to be used on ranges of elements.

A **range** is any sequence of objects that can be accessed through **iterators** or **pointers**, such as an array or an instance of some of the **STL containers**. Notice though, that algorithms operate through iterators directly on the values, not affecting in any way the structure of any possible container (it never affects the size or storage allocation of the container).

Non-Modifying Sequence Operations

all_of

any_of

none_of

for_each

find

find_if

find_if_not

find_end

find_first_of

adjacent_find

count

count_if

mismatch

equal

is_permutation

search

search_n

Modifying Sequence Operations

copy
copy_n
copy_if
copy_backward
move
move_backward
swap
swap_ranges
iter_swap
transform
replace
replace_if
replace_copy
replace_copy_if
fill

fill_n
generate
generate_n
remove
remove_if
remove_copy
remove_copy_if
unique
unique_copy
reverse
reverse_copy
rotate
rotate_copy
random_shuffle
shuffle

Partitions & Sorting

is_partitioned

partition

stable_partition

partition_copy

partition_point

sort

stable_sort

partial_sort

partial_sort_copy

is_sorted

is_sorted_until

nth_element

Min / Max

min

max

minmax

min_element

max_element

minmax_element

Demo