

Quadratic Sieve

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Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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Chapter 2

Class Index

2.1 Class List

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

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Chapter 3

File Index

3.1 File List

Here is a list of all files with brief descriptions:

include/ factor_base.h	13
include/ vector.h	13
include/virtual/ abstract_factor_base.h	14
include/virtual/ abstract_vector.h	14
src/ main.cpp	14

Chapter 4

Namespace Documentation

4.1 QS Namespace Reference

Namespaces

- [numeric](#)

Classes

- class [Factor_base](#)
- class [Abstract_factor_base](#)

Enumerations

- enum [legendre_value](#) { [IS_NOT_QUADRATIC_RESIDUE](#) }

4.1.1 Enumeration Type Documentation

4.1.1.1 enum QS::legendre_value

Enumerator

IS_NOT_QUADRATIC_RESIDUE

4.2 QS::numeric Namespace Reference

Classes

- class [Vector](#)
- class [Abstract_vector](#)

Chapter 5

Class Documentation

5.1 QS::Abstract_factor_base Class Reference

```
#include <abstract_factor_base.h>
```

Public Member Functions

- [Factor_base](#) ()=delete
- [Factor_base](#) (mpz N)
- [Factor_base](#) (mpz_N, long unsigned upper_bound)
- unsigned long [operator\[\]](#) (unsigned int i) const

5.1.1 Member Function Documentation

5.1.1.1 QS::Abstract_factor_base::Factor_base () [delete]

5.1.1.2 QS::Abstract_factor_base::Factor_base (mpz N) [explicit]

5.1.1.3 QS::Abstract_factor_base::Factor_base (mpz_N , long unsigned *upper_bound*)

5.1.1.4 unsigned long QS::Abstract_factor_base::operator[] (unsigned int *i*) const

The documentation for this class was generated from the following file:

- include/virtual/[abstract_factor_base.h](#)

5.2 QS::numeric::Abstract_vector< T > Class Template Reference

```
#include <abstract_vector.h>
```

Public Member Functions

- [Vector](#) ()
- [Vector](#) (std::size_t t)
- [Vector](#) (std::size_t t, T initial_value)
- T [operator\[\]](#) () const
- T & [operator\[\]](#) ()

5.2.1 Member Function Documentation

5.2.1.1 `template<typename T> T QS::numeric::Abstract_vector< T >::operator[] () const`

5.2.1.2 `template<typename T> T& QS::numeric::Abstract_vector< T >::operator[] ()`

5.2.1.3 `template<typename T> QS::numeric::Abstract_vector< T >::Vector ()`

5.2.1.4 `template<typename T> QS::numeric::Abstract_vector< T >::Vector (std::size_t t)`

5.2.1.5 `template<typename T> QS::numeric::Abstract_vector< T >::Vector (std::size_t t, T initial_value)`

The documentation for this class was generated from the following file:

- `include/virtual/abstract_vector.h`

5.3 QS::Factor_base Class Reference

```
#include <factor_base.h>
```

Public Member Functions

- `Factor_base ()=delete`
- `Factor_base (mpz N)`
- `Factor_base (mpz_N, long unsigned upper_bound)`
- unsigned long `operator[]` (unsigned int i) const

5.3.1 Constructor & Destructor Documentation

5.3.1.1 `QS::Factor_base::Factor_base () [delete]`

5.3.1.2 `QS::Factor_base::Factor_base (mpz N) [explicit]`

5.3.1.3 `QS::Factor_base::Factor_base (mpz_N, long unsigned upper_bound)`

5.3.2 Member Function Documentation

5.3.2.1 unsigned long `QS::Factor_base::operator[]` (unsigned int i) const

The documentation for this class was generated from the following file:

- `include/factor_base.h`

5.4 QS::numeric::Vector< T > Class Template Reference

```
#include <vector.h>
```

Public Member Functions

- `Vector ()`
- `Vector (std::size_t t)`

- [Vector](#) (std::size_t t, T initial_value)
- T [operator\[\]](#) () const
- T & [operator\[\]](#) ()

5.4.1 Constructor & Destructor Documentation

5.4.1.1 `template<typename T > QS::numeric::Vector< T >::Vector ()`

5.4.1.2 `template<typename T > QS::numeric::Vector< T >::Vector (std::size_t t)`

5.4.1.3 `template<typename T > QS::numeric::Vector< T >::Vector (std::size_t t, T initial_value)`

5.4.2 Member Function Documentation

5.4.2.1 `template<typename T > T QS::numeric::Vector< T >::operator[] () const`

5.4.2.2 `template<typename T > T& QS::numeric::Vector< T >::operator[] ()`

The documentation for this class was generated from the following file:

- include/[vector.h](#)

Chapter 6

File Documentation

6.1 `include/factor_base.h` File Reference

```
#include <gmp>
#include "vector.h"
```

Classes

- class [QS::Factor_base](#)

Namespaces

- [QS](#)

Enumerations

- enum [QS::legendre_value](#) { [QS::IS_NOT_QUADRATIC_RESIDUE](#) }

6.2 `include/vector.h` File Reference

```
#include "../virtual/Vector"
#include <iostream>
```

Classes

- class [QS::numeric::Vector< T >](#)

Namespaces

- [QS](#)
- [QS::numeric](#)

Macros

- `#define` [VECTOR_GUARD](#)

6.2.1 Macro Definition Documentation

6.2.1.1 `#define` VECTOR_GUARD

6.3 `include/virtual/abstract_factor_base.h` File Reference

```
#include <gmp>
#include "vector.h"
```

Classes

- class [QS::Abstract_factor_base](#)

Namespaces

- [QS](#)

6.4 `include/virtual/abstract_vector.h` File Reference

Classes

- class [QS::numeric::Abstract_vector< T >](#)

Namespaces

- [QS](#)
- [QS::numeric](#)

Macros

- `#define` [ABSTRACT_VECTOR_GUARD](#)

6.4.1 Macro Definition Documentation

6.4.1.1 `#define` ABSTRACT_VECTOR_GUARD

6.5 `src/main.cpp` File Reference

```
#include <iostream>
#include <gmp>
```

Functions

- int `main` ()

6.5.1 Function Documentation

6.5.1.1 int main ()

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