

Report to LW1

Eugene Chernikov

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Chapter 1

Class Index

1.1 Class List

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

Child	7
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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

main.cpp	11
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Chapter 3

Class Documentation

3.1 Child Struct Reference

Public Member Functions

- `Child` (int `year`, int `squad`, string `name`, string `date`, int `shift`)

Public Attributes

- int `year`
- int `squad`
- string `name`
- string `date`
- int `shift`

Friends

- bool `operator==` (const `Child` &a, const `Child` &b)
- bool `operator<` (const `Child` &a, const `Child` &b)
- bool `operator<=` (const `Child` &a, const `Child` &b)
- bool `operator>` (const `Child` &a, const `Child` &b)
- bool `operator>=` (const `Child` &a, const `Child` &b)
- ostream & `operator<<` (ostream &os, const `Child` &a)

3.1.1 Constructor & Destructor Documentation

3.1.1.1 `Child()`

```
Child::Child (
    int year,
    int squad,
    string name,
    string date,
    int shift ) [inline]
```

3.1.2 Friends And Related Function Documentation

3.1.2.1 operator<

```
bool operator< (
    const Child & a,
    const Child & b ) [friend]
```

3.1.2.2 operator<<

```
ostream & operator<< (
    ostream & os,
    const Child & a ) [friend]
```

3.1.2.3 operator<=

```
bool operator<= (
    const Child & a,
    const Child & b ) [friend]
```

3.1.2.4 operator==

```
bool operator== (
    const Child & a,
    const Child & b ) [friend]
```

3.1.2.5 operator>

```
bool operator> (
    const Child & a,
    const Child & b ) [friend]
```

3.1.2.6 operator>=

```
bool operator>= (
    const Child & a,
    const Child & b ) [friend]
```

3.1.3 Member Data Documentation

3.1.3.1 date

```
string Child::date
```

3.1.3.2 name

```
string Child::name
```

3.1.3.3 shift

```
int Child::shift
```

3.1.3.4 squad

```
int Child::squad
```

3.1.3.5 year

```
int Child::year
```

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

- [main.cpp](#)

Chapter 4

File Documentation

4.1 main.cpp File Reference

```
#include <iostream>
#include <ctime>
#include <fstream>
#include <vector>
#include <chrono>
#include <string>
```

Classes

- struct [Child](#)

Functions

- string [randomString](#) (const int len)
- string [randomDate](#) (int minY, int maxY)
- void [createInfo](#) ()
- vector< vector< [Child](#) > > [readInfo](#) ()
- vector< [Child](#) > [selectSort](#) (vector< [Child](#) > vec)
- vector< [Child](#) > [insertSort](#) (vector< [Child](#) > vec)
- vector< [Child](#) > [shakerSort](#) (vector< [Child](#) > vec)
- void [writeOutput](#) (string title, vector< vector< [Child](#) > > &res)
- void [writeTime](#) (string title, vector< chrono::steady_clock::time_point > time)
- int [main](#) ()

Variables

- string [inputFile](#) = "info.txt"
- string [outputFile](#) = "output.txt"
- string [timeStampsFile](#) = "timestamps.txt"
- int [dimsNum](#) = 7
- int [dims](#) [7] = { 100, 1000, 2000, 5000, 10000, 25000, 100000 }

4.1.1 Function Documentation

4.1.1.1 createInfo()

```
void createInfo ( )
```

4.1.1.2 insertSort()

```
vector< Child > insertSort (
    vector< Child > vec )
```

4.1.1.3 main()

```
int main ( )
```

4.1.1.4 randomDate()

```
string randomDate (
    int minY,
    int maxY )
```

4.1.1.5 randomString()

```
string randomString (
    const int len )
```

4.1.1.6 readInfo()

```
vector< vector< Child > > readInfo ( )
```

4.1.1.7 selectSort()

```
vector< Child > selectSort (
    vector< Child > vec )
```

4.1.1.8 shakerSort()

```
vector< Child > shakerSort (
    vector< Child > vec )
```

4.1.1.9 writeOutput()

```
void writeOutput (
    string title,
    vector< vector< Child > > & res )
```

4.1.1.10 writeTime()

```
void writeTime (
    string title,
    vector< chrono::steady_clock::time_point > time )
```

4.1.2 Variable Documentation

4.1.2.1 dims

```
int dims[7] = { 100, 1000, 2000, 5000, 10000, 25000, 100000 }
```

4.1.2.2 dimsNum

```
int dimsNum = 7
```

4.1.2.3 inputFile

```
string inputFile = "info.txt"
```

4.1.2.4 outputFile

```
string outputFile = "output.txt"
```

4.1.2.5 timeStampsFile

```
string timeStampsFile = "timestamps.txt"
```


Chapter 5

Repository reference

Ref: https://github.com/EvgenijCS202/MP_1

Chapter 6

Graphics



