

main.cpp File Reference

```
#include <iostream>
#include <cassert>
#include <cmath>
#include <windows.h>
#include <iomanip>
```

Macros

```
#define MODE
    Use for debug mode. More...

#define _FAIL_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_RED);
    Use for painting background in red color in debug mode. More...

#define _PASSED_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_GREEN);
    Use for painting background in green color in debug mode. More...

#define unittest(calc_value, real_value)
    Use for testing program. More...
```

Functions

```
double linear_equation (double a, double b, double &x)
    It solves linear equations :  $ax+b=0$ . More...

double quadratic_equation (double a, double b, double c, double &x1, double &x2)
    It solves quadratic equations :  $ax^2+bx+c=0$ . More...

int main ()
```

Macro Definition Documentation

◆ **_FAIL_**

```
#define _FAIL_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_RED);
```

Use for painting background in red color in debug mode.

◆ **_PASSED_**

```
#define _PASSED_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_GREEN);
```

Use for painting background in green color in debug mode.

◆ **MODE**

```
#define MODE
```

Use for debug mode.

◆ **unittest**

```
#define unittest ( calc_value,
                  real_value
                )
```

Macro Definition Documentation

♦ _FAIL_

```
#define _FAIL_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_RED);
```

Use for painting background in red color in debug mode.

♦ _PASSED_

```
#define _PASSED_ SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), BACKGROUND_GREEN);
```

Use for painting background in green color in debug mode.

♦ MODE

```
#define MODE
```

Use for debug mode.

♦ unittest

```
#define unittest ( calc_value,
                  real_value
                )
```

Value:

```
if (calc_value!=real_value)\
{\
    _FAIL_ std::cout<<"[TEST FAILED] ";\
}\
else\
{\
    _PASSED_ std::cout<<"[TEST PASSED] ";\
}\
std::cout<<std::setw(5)<<calc_value<<" "<<std::setw(5)<<real_value<<" ";\
std::cout<<__FILE__<<" ("<<__LINE__<<)"<<std::endl;\
SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE),FOREGROUND_RED | FOREGROUND_GREEN | FOREGROUND_BLUE);
```

Use for testing program.

If any test is failed background is red. Otherwise background is green.

Parameters

[in] **calc_value** Calculated value

[in] **real_val** Real value

Function Documentation

♦ linear_equation()

```
double linear_equation ( double a,
                        double b,
                        double & x
                      )
```

It solves linear equations : $ax+b=0$.

Parameters

[out] **x** Solution, if it exists.

Returns

Amount of solutions. (1/0/Inf)

◆ **main()**

```
int main ( )
```

◆ **quadratic_equation()**

```
double quadratic_equation ( double  a,  
                           double  b,  
                           double  c,  
                           double & x1,  
                           double & x2  
                           )
```

It solves quadratic equations : $ax^2+bx+c=0$.

Parameters

[out] **x1** Greatest solution, if it exists.

[out] **x2** Other solution, if it exists.

Returns

Amount of solutions. (2/0/Inf)