|  |  |
| --- | --- |
| C:\Documents and Settings\admin\Рабочий стол\МИРЭА_ЭМБЛЕМА_приказ.JPG | |
| МИНОБРАНАУКИ РОССИИ | |
| Федеральное государственное бюджетное образовательное учреждение  высшего образования  «**МОСКОВСКИЙ ТЕХНОЛОГИЧЕСКИЙ УНИВЕРСИТЕТ»**  **МИРЭА** | |
| Институт информационных технологий  Кафедра математического обеспечения и стандартизации информационных технологий | |
| **Отчет по лабораторной работе №8** **Тема работы «РАЗРАБОТКА ПРИЛОЖЕНИЙ WINDOWS FORMS С++»** | |
| Выполнил: |  |
| Студент группы ИКБО-07-17  Отчет принял:  Преподаватель кафедры МОСИТ | Данилов Д.Е.  Миронов Антон Николаевич |
| Москва 2018 | |

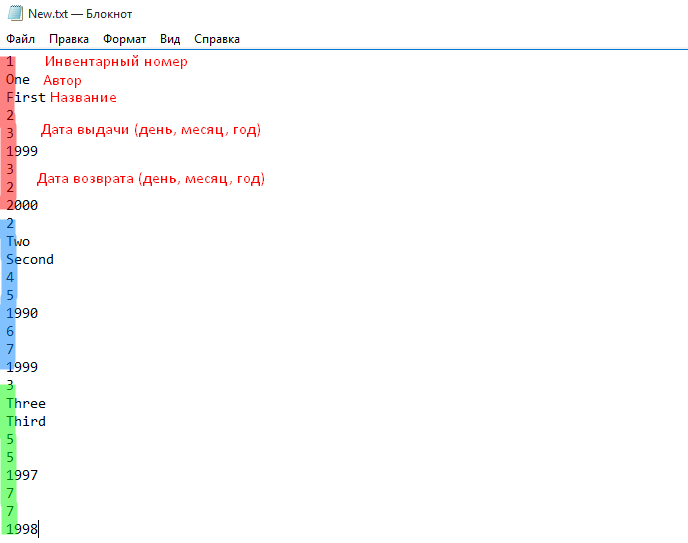
# **Задание**

# **Условие задания**

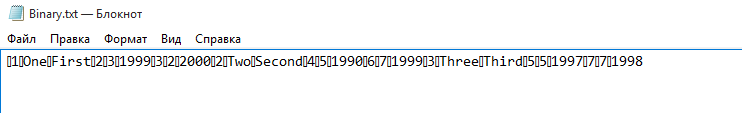
Разработайте проект формы, позволяющей осуществлять:

* Ввод данных в поля структуры
* Добавление структуры в массив
* Отображение массива структур в dataGridView
* Создание двоичного файла из записей – структур, данные для которых считать из тестового файла
* Чтение записей из двоичного файла и отображение их в dataGridView
* Другие операции над массивом структур из варианта Лаб 4.

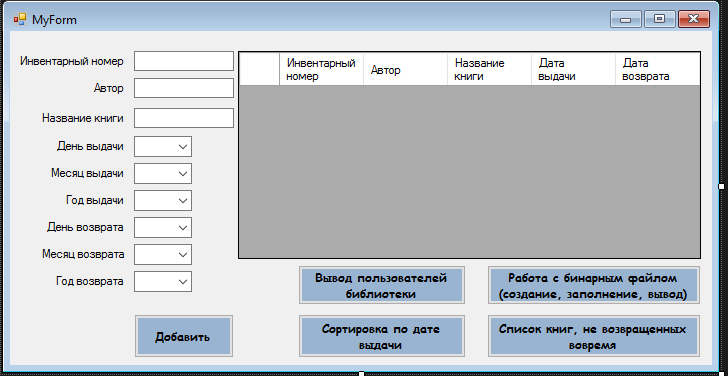
**Тестовый файл**



**Созданный двоичный файл**



**Форма**



**Кодировка алгоритма программы:**

***Struct.h***

#pragma once

using namespace System;

ref struct Date

{

unsigned short day;

unsigned short month;

unsigned short year;

};

ref struct LibraryUser

{

unsigned int iNumber;

String^ Author;

String^ Title;

Date^ Give = gcnew Date;

Date^ Back = gcnew Date;

};

***MyForm.cpp***

#include "MyForm.h"

using namespace System;

using namespace System::Windows::Forms;

[STAThreadAttribute]

void main(array<String^>^ args)

{

Application::EnableVisualStyles();

Application::SetCompatibleTextRenderingDefault(false);

Library::MyForm form;

Application::Run(%form);

}

***MyForm.h***

#pragma once

#include "Struct.h"

#include <cliext\vector>

namespace Library {

using namespace System;

using namespace System::ComponentModel;

using namespace System::Collections;

using namespace System::Windows::Forms;

using namespace System::Data;

using namespace System::Drawing;

using namespace System::IO;

using namespace cliext;

//////////////////////////////////////////////

//////////////////////////////////////////////

/// <summary>

/// Сводка для MyForm

/// </summary>

public ref class MyForm : public System::Windows::Forms::Form

{

public:

MyForm(void)

{

InitializeComponent();

//

//TODO: добавьте код конструктора

//

}

protected:

/// <summary>

/// Освободить все используемые ресурсы.

/// </summary>

~MyForm()

{

if (components)

{

delete components;

}

}

private: System::Windows::Forms::DataGridView^ dataGridView1;

protected:

private: System::Windows::Forms::DataGridViewTextBoxColumn^ Column1;

private: System::Windows::Forms::DataGridViewTextBoxColumn^ Column2;

private: System::Windows::Forms::DataGridViewTextBoxColumn^ Column3;

private: System::Windows::Forms::DataGridViewTextBoxColumn^ Column4;

private: System::Windows::Forms::DataGridViewTextBoxColumn^ Column5;

private: System::Windows::Forms::Label^ label1;

private: System::Windows::Forms::Label^ label2;

private: System::Windows::Forms::Label^ label3;

private: System::Windows::Forms::Label^ label4;

private: System::Windows::Forms::Label^ label5;

private: System::Windows::Forms::Label^ label6;

private: System::Windows::Forms::Label^ label7;

private: System::Windows::Forms::Label^ label8;

private: System::Windows::Forms::Label^ label9;

private: System::Windows::Forms::TextBox^ textBox1;

private: System::Windows::Forms::TextBox^ textBox2;

private: System::Windows::Forms::TextBox^ textBox3;

private: System::Windows::Forms::ComboBox^ comboBox1;

private: System::Windows::Forms::ComboBox^ comboBox2;

private: System::Windows::Forms::ComboBox^ comboBox3;

private: System::Windows::Forms::ComboBox^ comboBox4;

private: System::Windows::Forms::ComboBox^ comboBox5;

private: System::Windows::Forms::ComboBox^ comboBox6;

private: System::Windows::Forms::Button^ button1;

private: System::Windows::Forms::Button^ button2;

private: System::Windows::Forms::Button^ button3;

private: System::Windows::Forms::Button^ button4;

private: System::Windows::Forms::Button^ button5;

private: System::Windows::Forms::OpenFileDialog^ openFileDialog1;

private:

/// <summary>

/// Обязательная переменная конструктора.

/// </summary>

System::ComponentModel::Container ^components;

#pragma region Windows Form Designer generated code

/// <summary>

/// Требуемый метод для поддержки конструктора — не изменяйте

/// содержимое этого метода с помощью редактора кода.

/// </summary>

void InitializeComponent(void)

{

this->dataGridView1 = (gcnew System::Windows::Forms::DataGridView());

this->Column1 = (gcnew System::Windows::Forms::DataGridViewTextBoxColumn());

this->Column2 = (gcnew System::Windows::Forms::DataGridViewTextBoxColumn());

this->Column3 = (gcnew System::Windows::Forms::DataGridViewTextBoxColumn());

this->Column4 = (gcnew System::Windows::Forms::DataGridViewTextBoxColumn());

this->Column5 = (gcnew System::Windows::Forms::DataGridViewTextBoxColumn());

this->label1 = (gcnew System::Windows::Forms::Label());

this->label2 = (gcnew System::Windows::Forms::Label());

this->label3 = (gcnew System::Windows::Forms::Label());

this->label4 = (gcnew System::Windows::Forms::Label());

this->label5 = (gcnew System::Windows::Forms::Label());

this->label6 = (gcnew System::Windows::Forms::Label());

this->label7 = (gcnew System::Windows::Forms::Label());

this->label8 = (gcnew System::Windows::Forms::Label());

this->label9 = (gcnew System::Windows::Forms::Label());

this->textBox1 = (gcnew System::Windows::Forms::TextBox());

this->textBox2 = (gcnew System::Windows::Forms::TextBox());

this->textBox3 = (gcnew System::Windows::Forms::TextBox());

this->comboBox1 = (gcnew System::Windows::Forms::ComboBox());

this->comboBox2 = (gcnew System::Windows::Forms::ComboBox());

this->comboBox3 = (gcnew System::Windows::Forms::ComboBox());

this->comboBox4 = (gcnew System::Windows::Forms::ComboBox());

this->comboBox5 = (gcnew System::Windows::Forms::ComboBox());

this->comboBox6 = (gcnew System::Windows::Forms::ComboBox());

this->button1 = (gcnew System::Windows::Forms::Button());

this->button2 = (gcnew System::Windows::Forms::Button());

this->button3 = (gcnew System::Windows::Forms::Button());

this->button4 = (gcnew System::Windows::Forms::Button());

this->button5 = (gcnew System::Windows::Forms::Button());

this->openFileDialog1 = (gcnew System::Windows::Forms::OpenFileDialog());

(cli::safe\_cast<System::ComponentModel::ISupportInitialize^>(this->dataGridView1))->BeginInit();

this->SuspendLayout();

//

// dataGridView1

//

this->dataGridView1->AllowUserToAddRows = false;

this->dataGridView1->AllowUserToDeleteRows = false;

this->dataGridView1->AutoSizeColumnsMode = System::Windows::Forms::DataGridViewAutoSizeColumnsMode::Fill;

this->dataGridView1->ColumnHeadersHeightSizeMode = System::Windows::Forms::DataGridViewColumnHeadersHeightSizeMode::AutoSize;

this->dataGridView1->Columns->AddRange(gcnew cli::array< System::Windows::Forms::DataGridViewColumn^ >(5) {

this->Column1,

this->Column2, this->Column3, this->Column4, this->Column5

});

this->dataGridView1->Location = System::Drawing::Point(228, 20);

this->dataGridView1->Name = L"dataGridView1";

this->dataGridView1->ReadOnly = true;

this->dataGridView1->Size = System::Drawing::Size(463, 208);

this->dataGridView1->TabIndex = 0;

//

// Column1

//

this->Column1->HeaderText = L"Инвентарный номер";

this->Column1->Name = L"Column1";

this->Column1->ReadOnly = true;

//

// Column2

//

this->Column2->HeaderText = L"Автор";

this->Column2->Name = L"Column2";

this->Column2->ReadOnly = true;

//

// Column3

//

this->Column3->HeaderText = L"Название книги";

this->Column3->Name = L"Column3";

this->Column3->ReadOnly = true;

//

// Column4

//

this->Column4->HeaderText = L"Дата выдачи";

this->Column4->Name = L"Column4";

this->Column4->ReadOnly = true;

//

// Column5

//

this->Column5->HeaderText = L"Дата возврата";

this->Column5->Name = L"Column5";

this->Column5->ReadOnly = true;

//

// label1

//

this->label1->AutoSize = true;

this->label1->Location = System::Drawing::Point(7, 23);

this->label1->Name = L"label1";

this->label1->Size = System::Drawing::Size(111, 13);

this->label1->TabIndex = 1;

this->label1->Text = L"Инвентарный номер";

//

// label2

//

this->label2->AutoSize = true;

this->label2->Location = System::Drawing::Point(81, 50);

this->label2->Name = L"label2";

this->label2->Size = System::Drawing::Size(37, 13);

this->label2->TabIndex = 2;

this->label2->Text = L"Автор";

//

// label3

//

this->label3->AutoSize = true;

this->label3->Location = System::Drawing::Point(29, 80);

this->label3->Name = L"label3";

this->label3->Size = System::Drawing::Size(89, 13);

this->label3->TabIndex = 3;

this->label3->Text = L"Название книги";

//

// label4

//

this->label4->AutoSize = true;

this->label4->Location = System::Drawing::Point(44, 108);

this->label4->Name = L"label4";

this->label4->Size = System::Drawing::Size(74, 13);

this->label4->TabIndex = 4;

this->label4->Text = L"День выдачи";

//

// label5

//

this->label5->AutoSize = true;

this->label5->Location = System::Drawing::Point(38, 135);

this->label5->Name = L"label5";

this->label5->Size = System::Drawing::Size(80, 13);

this->label5->TabIndex = 5;

this->label5->Text = L"Месяц выдачи";

//

// label6

//

this->label6->AutoSize = true;

this->label6->Location = System::Drawing::Point(53, 162);

this->label6->Name = L"label6";

this->label6->Size = System::Drawing::Size(65, 13);

this->label6->TabIndex = 6;

this->label6->Text = L"Год выдачи";

//

// label7

//

this->label7->AutoSize = true;

this->label7->Location = System::Drawing::Point(34, 189);

this->label7->Name = L"label7";

this->label7->Size = System::Drawing::Size(84, 13);

this->label7->TabIndex = 7;

this->label7->Text = L"День возврата";

//

// label8

//

this->label8->AutoSize = true;

this->label8->Location = System::Drawing::Point(29, 216);

this->label8->Name = L"label8";

this->label8->Size = System::Drawing::Size(90, 13);

this->label8->TabIndex = 8;

this->label8->Text = L"Месяц возврата";

//

// label9

//

this->label9->AutoSize = true;

this->label9->Location = System::Drawing::Point(43, 243);

this->label9->Name = L"label9";

this->label9->Size = System::Drawing::Size(75, 13);

this->label9->TabIndex = 9;

this->label9->Text = L"Год возврата";

//

// textBox1

//

this->textBox1->Location = System::Drawing::Point(124, 20);

this->textBox1->Name = L"textBox1";

this->textBox1->Size = System::Drawing::Size(100, 20);

this->textBox1->TabIndex = 10;

//

// textBox2

//

this->textBox2->Location = System::Drawing::Point(124, 47);

this->textBox2->Name = L"textBox2";

this->textBox2->Size = System::Drawing::Size(100, 20);

this->textBox2->TabIndex = 11;

//

// textBox3

//

this->textBox3->Location = System::Drawing::Point(124, 77);

this->textBox3->Name = L"textBox3";

this->textBox3->Size = System::Drawing::Size(100, 20);

this->textBox3->TabIndex = 12;

//

// comboBox1

//

this->comboBox1->DropDownHeight = 80;

this->comboBox1->FormattingEnabled = true;

this->comboBox1->IntegralHeight = false;

this->comboBox1->Items->AddRange(gcnew cli::array< System::Object^ >(31) {

L"1", L"2", L"3", L"4", L"5", L"6", L"7", L"8",

L"9", L"10", L"11", L"12", L"13", L"14", L"15", L"16", L"17", L"18", L"19", L"20", L"21", L"22", L"23", L"24", L"25", L"26",

L"27", L"28", L"29", L"30", L"31"

});

this->comboBox1->Location = System::Drawing::Point(124, 105);

this->comboBox1->Name = L"comboBox1";

this->comboBox1->Size = System::Drawing::Size(58, 21);

this->comboBox1->TabIndex = 13;

//

// comboBox2

//

this->comboBox2->DropDownHeight = 80;

this->comboBox2->FormattingEnabled = true;

this->comboBox2->IntegralHeight = false;

this->comboBox2->Items->AddRange(gcnew cli::array< System::Object^ >(12) {

L"1", L"2", L"3", L"4", L"5", L"6", L"7", L"8",

L"9", L"10", L"11", L"12"

});

this->comboBox2->Location = System::Drawing::Point(124, 132);

this->comboBox2->Name = L"comboBox2";

this->comboBox2->Size = System::Drawing::Size(58, 21);

this->comboBox2->TabIndex = 14;

//

// comboBox3

//

this->comboBox3->DropDownHeight = 80;

this->comboBox3->FormattingEnabled = true;

this->comboBox3->IntegralHeight = false;

this->comboBox3->Items->AddRange(gcnew cli::array< System::Object^ >(29) {

L"1990", L"1991", L"1992", L"1993", L"1994", L"1995",

L"1996", L"1997", L"1998", L"1999", L"2000", L"2001", L"2002", L"2003", L"2004", L"2005", L"2006", L"2007", L"2008", L"2009",

L"2010", L"2011", L"2012", L"2013", L"2014", L"2015", L"2016", L"2017", L"2018"

});

this->comboBox3->Location = System::Drawing::Point(124, 159);

this->comboBox3->Name = L"comboBox3";

this->comboBox3->Size = System::Drawing::Size(58, 21);

this->comboBox3->TabIndex = 15;

//

// comboBox4

//

this->comboBox4->DropDownHeight = 80;

this->comboBox4->FormattingEnabled = true;

this->comboBox4->IntegralHeight = false;

this->comboBox4->Items->AddRange(gcnew cli::array< System::Object^ >(31) {

L"1", L"2", L"3", L"4", L"5", L"6", L"7", L"8",

L"9", L"10", L"11", L"12", L"13", L"14", L"15", L"16", L"17", L"18", L"19", L"20", L"21", L"22", L"23", L"24", L"25", L"26",

L"27", L"28", L"29", L"30", L"31"

});

this->comboBox4->Location = System::Drawing::Point(124, 186);

this->comboBox4->Name = L"comboBox4";

this->comboBox4->Size = System::Drawing::Size(58, 21);

this->comboBox4->TabIndex = 16;

//

// comboBox5

//

this->comboBox5->DropDownHeight = 80;

this->comboBox5->FormattingEnabled = true;

this->comboBox5->IntegralHeight = false;

this->comboBox5->Items->AddRange(gcnew cli::array< System::Object^ >(12) {

L"1", L"2", L"3", L"4", L"5", L"6", L"7", L"8",

L"9", L"10", L"11", L"12"

});

this->comboBox5->Location = System::Drawing::Point(124, 213);

this->comboBox5->Name = L"comboBox5";

this->comboBox5->Size = System::Drawing::Size(58, 21);

this->comboBox5->TabIndex = 17;

//

// comboBox6

//

this->comboBox6->DropDownHeight = 80;

this->comboBox6->FormattingEnabled = true;

this->comboBox6->IntegralHeight = false;

this->comboBox6->Items->AddRange(gcnew cli::array< System::Object^ >(29) {

L"1990", L"1991", L"1992", L"1993", L"1994", L"1995",

L"1996", L"1997", L"1998", L"1999", L"2000", L"2001", L"2002", L"2003", L"2004", L"2005", L"2006", L"2007", L"2008", L"2009",

L"2010", L"2011", L"2012", L"2013", L"2014", L"2015", L"2016", L"2017", L"2018"

});

this->comboBox6->Location = System::Drawing::Point(124, 240);

this->comboBox6->Name = L"comboBox6";

this->comboBox6->Size = System::Drawing::Size(58, 21);

this->comboBox6->TabIndex = 18;

//

// button1

//

this->button1->BackColor = System::Drawing::SystemColors::ActiveCaption;

this->button1->Font = (gcnew System::Drawing::Font(L"Comic Sans MS", 9, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,

static\_cast<System::Byte>(204)));

this->button1->ForeColor = System::Drawing::SystemColors::ActiveCaptionText;

this->button1->Location = System::Drawing::Point(124, 283);

this->button1->Name = L"button1";

this->button1->Size = System::Drawing::Size(100, 44);

this->button1->TabIndex = 19;

this->button1->Text = L"Добавить";

this->button1->UseVisualStyleBackColor = false;

this->button1->Click += gcnew System::EventHandler(this, &MyForm::button1\_Click);

//

// button2

//

this->button2->BackColor = System::Drawing::SystemColors::ActiveCaption;

this->button2->Font = (gcnew System::Drawing::Font(L"Comic Sans MS", 9, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,

static\_cast<System::Byte>(204)));

this->button2->Location = System::Drawing::Point(288, 234);

this->button2->Name = L"button2";

this->button2->Size = System::Drawing::Size(168, 40);

this->button2->TabIndex = 20;

this->button2->Text = L"Вывод пользователей библиотеки";

this->button2->TextImageRelation = System::Windows::Forms::TextImageRelation::ImageAboveText;

this->button2->UseVisualStyleBackColor = false;

this->button2->Click += gcnew System::EventHandler(this, &MyForm::button2\_Click);

//

// button3

//

this->button3->BackColor = System::Drawing::SystemColors::ActiveCaption;

this->button3->Font = (gcnew System::Drawing::Font(L"Comic Sans MS", 9, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,

static\_cast<System::Byte>(204)));

this->button3->Location = System::Drawing::Point(477, 234);

this->button3->Name = L"button3";

this->button3->Size = System::Drawing::Size(214, 40);

this->button3->TabIndex = 21;

this->button3->Text = L"Работа с бинарным файлом (создание, заполнение, вывод)";

this->button3->UseVisualStyleBackColor = false;

this->button3->Click += gcnew System::EventHandler(this, &MyForm::button3\_Click);

//

// button4

//

this->button4->BackColor = System::Drawing::SystemColors::ActiveCaption;

this->button4->Font = (gcnew System::Drawing::Font(L"Comic Sans MS", 9, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,

static\_cast<System::Byte>(204)));

this->button4->Location = System::Drawing::Point(288, 283);

this->button4->Name = L"button4";

this->button4->Size = System::Drawing::Size(168, 44);

this->button4->TabIndex = 22;

this->button4->Text = L"Сортировка по дате выдачи";

this->button4->UseVisualStyleBackColor = false;

this->button4->Click += gcnew System::EventHandler(this, &MyForm::button4\_Click);

//

// button5

//

this->button5->BackColor = System::Drawing::SystemColors::ActiveCaption;

this->button5->Font = (gcnew System::Drawing::Font(L"Comic Sans MS", 9, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,

static\_cast<System::Byte>(204)));

this->button5->Location = System::Drawing::Point(477, 283);

this->button5->Name = L"button5";

this->button5->Size = System::Drawing::Size(214, 44);

this->button5->TabIndex = 23;

this->button5->Text = L"Список книг, не возвращенных вовремя";

this->button5->UseVisualStyleBackColor = false;

this->button5->Click += gcnew System::EventHandler(this, &MyForm::button5\_Click);

//

// openFileDialog1

//

this->openFileDialog1->FileName = L"openFileDialog1";

//

// MyForm

//

this->AutoScaleDimensions = System::Drawing::SizeF(6, 13);

this->AutoScaleMode = System::Windows::Forms::AutoScaleMode::Font;

this->ClientSize = System::Drawing::Size(702, 334);

this->Controls->Add(this->button5);

this->Controls->Add(this->button4);

this->Controls->Add(this->button3);

this->Controls->Add(this->button2);

this->Controls->Add(this->button1);

this->Controls->Add(this->comboBox6);

this->Controls->Add(this->comboBox5);

this->Controls->Add(this->comboBox4);

this->Controls->Add(this->comboBox3);

this->Controls->Add(this->comboBox2);

this->Controls->Add(this->comboBox1);

this->Controls->Add(this->textBox3);

this->Controls->Add(this->textBox2);

this->Controls->Add(this->textBox1);

this->Controls->Add(this->label9);

this->Controls->Add(this->label8);

this->Controls->Add(this->label7);

this->Controls->Add(this->label6);

this->Controls->Add(this->label5);

this->Controls->Add(this->label4);

this->Controls->Add(this->label3);

this->Controls->Add(this->label2);

this->Controls->Add(this->label1);

this->Controls->Add(this->dataGridView1);

this->Name = L"MyForm";

this->Text = L"MyForm";

(cli::safe\_cast<System::ComponentModel::ISupportInitialize^>(this->dataGridView1))->EndInit();

this->ResumeLayout(false);

this->PerformLayout();

}

#pragma endregion

vector<LibraryUser^> array\_v;

private: System::Void button1\_Click(System::Object^ sender, System::EventArgs^ e)

{

if (comboBox1->SelectedIndex == -1 || comboBox2->SelectedIndex == -1 || comboBox3->SelectedIndex == -1 || comboBox4->SelectedIndex == -1 || comboBox5->SelectedIndex == -1 || comboBox6->SelectedIndex == -1 || textBox1->Text == "" || textBox2->Text == "" || textBox3->Text == "" || comboBox1->Text == "" || comboBox2->Text == "" || comboBox3->Text == "" || comboBox4->Text == "" || comboBox5->Text == "" || comboBox6->Text == "" || (Int32::Parse(comboBox4->Text) < Int32::Parse(comboBox1->Text) && Int32::Parse(comboBox5->Text) <= Int32::Parse(comboBox2->Text) && Int32::Parse(comboBox6->Text) <= Int32::Parse(comboBox3->Text)) || (Int32::Parse(comboBox5->Text) < Int32::Parse(comboBox2->Text) && Int32::Parse(comboBox6->Text) <= Int32::Parse(comboBox3->Text)) || (Int32::Parse(comboBox6->Text) < Int32::Parse(comboBox3->Text)))

{

MessageBox::Show("Заполните правильно форму", "Error", MessageBoxButtons::OK, MessageBoxIcon::Error);

}

else

{

LibraryUser^ e = gcnew LibraryUser;

e->iNumber = UInt32::Parse(textBox1->Text);

e->Author = textBox2->Text;

e->Title = textBox3->Text;

e->Give->day = UInt16::Parse(comboBox1->Text);

e->Give->month = UInt16::Parse(comboBox2->Text);

e->Give->year = UInt16::Parse(comboBox3->Text);

e->Back->day = UInt16::Parse(comboBox4->Text);

e->Back->month = UInt16::Parse(comboBox5->Text);

e->Back->year = UInt16::Parse(comboBox6->Text);

array\_v.push\_back(e);

dataGridView1->Rows->Clear();

dataGridView1->Rows->Add();

dataGridView1->Rows[0]->Cells[0]->Value = e->iNumber;

dataGridView1->Rows[0]->Cells[1]->Value = e->Author;

dataGridView1->Rows[0]->Cells[2]->Value = e->Title;

dataGridView1->Rows[0]->Cells[3]->Value = e->Give->day + "." + e->Give->month + "." + e->Give->year;

dataGridView1->Rows[0]->Cells[4]->Value = e->Back->day + "." + e->Back->month + "." + e->Back->year;

}

}

private: System::Void button2\_Click(System::Object^ sender, System::EventArgs^ e)

{

if (array\_v.size() > 0)

{

dataGridView1->Rows->Clear();

while (dataGridView1->RowCount < array\_v.size())

{

dataGridView1->Rows->Add();

}

for (unsigned int i = 0; i < array\_v.size(); i++)

{

dataGridView1->Rows[i]->Cells[0]->Value = array\_v[i]->iNumber;

dataGridView1->Rows[i]->Cells[1]->Value = array\_v[i]->Author;

dataGridView1->Rows[i]->Cells[2]->Value = array\_v[i]->Title;

dataGridView1->Rows[i]->Cells[3]->Value = array\_v[i]->Give->day + "." + array\_v[i]->Give->month + "." + array\_v[i]->Give->year;

dataGridView1->Rows[i]->Cells[4]->Value = array\_v[i]->Back->day + "." + array\_v[i]->Back->month + "." + array\_v[i]->Back->year;

}

}

else

{

MessageBox::Show("Заполните хотя бы одного пользователя", "Error", MessageBoxButtons::OK, MessageBoxIcon::Error);

}

}

private: System::Void button4\_Click(System::Object^ sender, System::EventArgs^ e)

{

LibraryUser^ temp;

if (array\_v.size() > 1)

{

unsigned int min;

for (unsigned int i = 0; i < (array\_v.size() - 1); i++)

{

min = i;

for (unsigned int j = i + 1; j < array\_v.size(); j++)

{

if (((array\_v[j]->Give->day < array\_v[min]->Give->day) && (array\_v[j]->Give->month == array\_v[min]->Give->month) && (array\_v[j]->Give->year == array\_v[min]->Give->year)) || ((array\_v[j]->Give->month < array\_v[min]->Give->month) && (array\_v[j]->Give->year == array\_v[min]->Give->year)) || ((array\_v[j]->Give->year < array\_v[min]->Give->year)))

min = j;

}

temp = array\_v[i];

array\_v[i] = array\_v[min];

array\_v[min] = temp;

}

button2->PerformClick();

}

else

{

MessageBox::Show("Заполните хотя бы одного пользователя", "Error", MessageBoxButtons::OK, MessageBoxIcon::Error);

}

}

private: System::Void button5\_Click(System::Object^ sender, System::EventArgs^ e)

{

if (array\_v.size() > 0)

{

String^ Bad\_Users = "";

for (unsigned int i = 0; i < array\_v.size(); i++)

{

if (!((array\_v[i]->Back->day >= array\_v[i]->Give->day && array\_v[i]->Back->month == array\_v[i]->Give->month && array\_v[i]->Back->year == array\_v[i]->Give->year) || (array\_v[i]->Back->day <= array\_v[i]->Give->day && (array\_v[i]->Back->month - 1) == array\_v[i]->Give->month && array\_v[i]->Back->year == array\_v[i]->Give->year) || (array\_v[i]->Back->day <= array\_v[i]->Give->day && array\_v[i]->Back->month == 1 && array\_v[i]->Give->month == 12 && (array\_v[i]->Back->year - 1) == array\_v[i]->Give->year)))

{

if (Bad\_Users == "")

Bad\_Users += array\_v[i]->Title;

else

Bad\_Users += ", " + array\_v[i]->Title;

}

}

MessageBox::Show(Bad\_Users, "Книги, не возвращенные вовремя", MessageBoxButtons::OK, MessageBoxIcon::Information);

}

else

{

MessageBox::Show("Заполните хотя бы одного пользователя", "Error", MessageBoxButtons::OK, MessageBoxIcon::Error);

}

}

private: System::Void button3\_Click(System::Object^ sender, System::EventArgs^ e)

{

if (openFileDialog1->ShowDialog() == System::Windows::Forms::DialogResult::OK)

{

StreamReader^ sr = gcnew StreamReader(openFileDialog1->FileName);

BinaryWriter^ bw = gcnew BinaryWriter(File::OpenWrite("Binary.txt"));

while (!sr->EndOfStream)

{

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

bw->Write(sr->ReadLine());

}

delete (IDisposable^)sr;

delete (IDisposable^)bw;

BinaryReader^br = gcnew BinaryReader(File::OpenRead("Binary.txt"));

LibraryUser^ User = gcnew LibraryUser;

while (br->PeekChar()>0)

{

UInt32::TryParse(br->ReadString(), User->iNumber);

User->Author = br->ReadString();

User->Title = br->ReadString();

UInt16::TryParse(br->ReadString(), User->Give->day);

UInt16::TryParse(br->ReadString(), User->Give->month);

UInt16::TryParse(br->ReadString(), User->Give->year);

UInt16::TryParse(br->ReadString(), User->Back->day);

UInt16::TryParse(br->ReadString(), User->Back->month);

UInt16::TryParse(br->ReadString(), User->Back->year);

array\_v.push\_back(User);

User = gcnew LibraryUser;

}

delete (IDisposable^)br;

button2->PerformClick();

}

}

};

}