# **ПРИЛОЖЕНИЕ**

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| #include "CourseWorkForm.h"  using namespace System;  using namespace System::Windows::Forms;  [STAThreadAttribute]  int main()  {  Application::EnableVisualStyles();  Application::SetCompatibleTextRenderingDefault(false);  CourseWork::CourseWorkForm form;  Application::Run(%form);  } |

Листинг 1. Исходный код модуля CourseWorkForm.cpp

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| --- |
| #pragma once  #include "fstream"  #include "iostream"  #include "string"  #include "Coffee\_machine.h"  #include "Bank.h"  namespace CourseWork  {  using namespace System;  using namespace System::ComponentModel;  using namespace System::Collections;  using namespace System::Windows::Forms;  using namespace System::Data;  using namespace System::Drawing;    Coffee\_machine coffee\_machine;  int type\_coffee = 0, sugar = -1;  /// <summary>  /// Сводка для CourseWorkForm  /// </summary>  public ref class CourseWorkForm : public System::Windows::Forms::Form  {  public:  CourseWorkForm(void)  {  InitializeComponent();  //  //TODO: добавьте код конструктора  //  }  protected:  /// <summary>  /// Освободить все используемые ресурсы.  /// </summary>  ~CourseWorkForm()  {  if (components)  {  delete components;  }  }  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::Button^ button6;  private: System::Windows::Forms::Button^ button7;  private: System::Windows::Forms::Button^ button8;  private: System::Windows::Forms::Button^ button9;  private: System::Windows::Forms::Button^ button10;  private: System::Windows::Forms::Button^ button11;  private: System::Windows::Forms::Button^ button12;  private: System::Windows::Forms::Button^ button13;  private: System::Windows::Forms::Button^ button14;  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::Button^ button15;  private: System::Windows::Forms::Button^ button16;  private: System::Windows::Forms::Label^ label7;  private: System::Windows::Forms::PictureBox^ pictureBox1;  private: System::Windows::Forms::GroupBox^ groupBox1;  private: System::Windows::Forms::Button^ button17;  private: System::Windows::Forms::ListView^ listView1;  private: System::Windows::Forms::TextBox^ textBox1;  private: System::Windows::Forms::Button^ button18;  private: System::Windows::Forms::Timer^ timer1;  private: System::Windows::Forms::GroupBox^ groupBox2;  private: System::Windows::Forms::ProgressBar^ progressBar1;  private: System::Windows::Forms::ProgressBar^ progressBar2;  private: System::Windows::Forms::ProgressBar^ progressBar3;  private: System::Windows::Forms::ProgressBar^ progressBar4;  private: System::Windows::Forms::ProgressBar^ progressBar5;  private: System::Windows::Forms::ProgressBar^ progressBar6;  private: System::Windows::Forms::Label^ label8;  private: System::Windows::Forms::Label^ label9;  private: System::Windows::Forms::Label^ label10;  private: System::Windows::Forms::Label^ label11;  private: System::Windows::Forms::Label^ label12;  private: System::Windows::Forms::Label^ label13;  private: System::Windows::Forms::GroupBox^ groupBox3;  private: System::Windows::Forms::Button^ button19;  private: System::Windows::Forms::GroupBox^ groupBox4;  private: System::Windows::Forms::Button^ button20;  private: System::Windows::Forms::Label^ label18;  private: System::Windows::Forms::Label^ label19;  private: System::Windows::Forms::Label^ label20;  private: System::Windows::Forms::Label^ label21;  private: System::Windows::Forms::Label^ label16;  private: System::Windows::Forms::Label^ label17;  private: System::Windows::Forms::Label^ label15;  private: System::Windows::Forms::Label^ label14;  private: System::Windows::Forms::Button^ button21;  private: System::Windows::Forms::OpenFileDialog^ openFileDialog1;  private: System::ComponentModel::IContainer^ components;  protected:  private:  /// <summary>  /// Обязательная переменная конструктора.  /// </summary>  #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->components = (gcnew  System::ComponentModel::Container());  System::ComponentModel::ComponentResourceManager^  resources = (gcnew System::ComponentModel::  ComponentResourceManager(CourseWorkForm::typeid));  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->button6 = (gcnew  System::Windows::Forms::Button());  this->button7 = (gcnew  System::Windows::Forms::Button());  this->button8 = (gcnew  System::Windows::Forms::Button());  this->button9 = (gcnew  System::Windows::Forms::Button());  this->button10 = (gcnew  System::Windows::Forms::Button());  this->button11 = (gcnew  System::Windows::Forms::Button());  this->button12 = (gcnew  System::Windows::Forms::Button());  this->button13 = (gcnew  System::Windows::Forms::Button());  this->button14 = (gcnew  System::Windows::Forms::Button());  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->button15 = (gcnew  System::Windows::Forms::Button());  this->button16 = (gcnew  System::Windows::Forms::Button());  this->label7 = (gcnew  System::Windows::Forms::Label());  this->pictureBox1 = (gcnew  System::Windows::Forms::PictureBox());  this->groupBox1 = (gcnew  System::Windows::Forms::GroupBox());  this->button17 = (gcnew  System::Windows::Forms::Button());  this->listView1 = (gcnew  System::Windows::Forms::ListView());  this->textBox1 = (gcnew  System::Windows::Forms::TextBox());  this->button18 = (gcnew  System::Windows::Forms::Button());  this->timer1 = (gcnew  System::Windows::Forms::Timer(this-  >components));  this->groupBox2 = (gcnew  System::Windows::Forms::GroupBox());  this->progressBar1 = (gcnew  System::Windows::Forms::ProgressBar());  this->progressBar2 = (gcnew  System::Windows::Forms::ProgressBar());  this->progressBar3 = (gcnew  System::Windows::Forms::ProgressBar());  this->progressBar4 = (gcnew  System::Windows::Forms::ProgressBar());  this->progressBar5 = (gcnew  System::Windows::Forms::ProgressBar());  this->progressBar6 = (gcnew  System::Windows::Forms::ProgressBar());  this->label8 = (gcnew  System::Windows::Forms::Label());  this->label9 = (gcnew  System::Windows::Forms::Label());  this->label10 = (gcnew  System::Windows::Forms::Label());  this->label11 = (gcnew  System::Windows::Forms::Label());  this->label12 = (gcnew  System::Windows::Forms::Label());  this->label13 = (gcnew  System::Windows::Forms::Label());  this->groupBox3 = (gcnew  System::Windows::Forms::GroupBox());  this->button19 = (gcnew  System::Windows::Forms::Button());  this->groupBox4 = (gcnew  System::Windows::Forms::GroupBox());  this->label18 = (gcnew  System::Windows::Forms::Label());  this->label19 = (gcnew  System::Windows::Forms::Label());  this->label20 = (gcnew  System::Windows::Forms::Label());  this->label21 = (gcnew  System::Windows::Forms::Label());  this->label16 = (gcnew  System::Windows::Forms::Label());  this->label17 = (gcnew  System::Windows::Forms::Label());  this->label15 = (gcnew  System::Windows::Forms::Label());  this->label14 = (gcnew  System::Windows::Forms::Label());  this->button21 = (gcnew  System::Windows::Forms::Button());  this->button20 = (gcnew  System::Windows::Forms::Button());  this->openFileDialog1 = (gcnew  System::Windows::Forms::OpenFileDialog());  (cli::safe\_cast<System::ComponentModel::  ISupportInitialize^>(this->pictureBox1))-  >BeginInit();  this->groupBox1->SuspendLayout();  this->groupBox2->SuspendLayout();  this->groupBox3->SuspendLayout();  this->groupBox4->SuspendLayout();  this->SuspendLayout();  //  // button1  //  this->button1->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button1.BackgroundImage")));  this->button1->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button1->Location =  System::Drawing::Point(256, 113);  this->button1->Name = L"button1";  this->button1->Size = System::Drawing::Size(37, 33);  this->button1->TabIndex = 0;  this->button1->UseVisualStyleBackColor = true;  this->button1->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button1\_Click);  //  // button2  //  this->button2->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button2.BackgroundImage")));  this->button2->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button2->Location =  System::Drawing::Point(256, 80);  this->button2->Name = L"button2";  this->button2->Size = System::Drawing::Size(37, 33);  this->button2->TabIndex = 3;  this->button2->UseVisualStyleBackColor = true;  this->button2->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button2\_Click);  //  // button3  //  this->button3->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button3.BackgroundImage")));  this->button3->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button3->Location =  System::Drawing::Point(256, 47);  this->button3->Name = L"button3";  this->button3->Size = System::Drawing::Size(37, 33);  this->button3->TabIndex = 4;  this->button3->UseVisualStyleBackColor = true;  this->button3->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button3\_Click);  //  // button4  //  this->button4->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button4.BackgroundImage")));  this->button4->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button4->Location =  System::Drawing::Point(256, 14);  this->button4->Name = L"button4";  this->button4->Size = System::Drawing::Size(37, 33);  this->button4->TabIndex = 5;  this->button4->UseVisualStyleBackColor = true;  this->button4->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button4\_Click);  //  // button5  //  this->button5->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button5.BackgroundImage")));  this->button5->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button5->Location =  System::Drawing::Point(293, 14);  this->button5->Name = L"button5";  this->button5->Size = System::Drawing::Size(74, 33);  this->button5->TabIndex = 6;  this->button5->UseVisualStyleBackColor = true;  this->button5->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button5\_Click);  //  // button6  //  this->button6->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button6.BackgroundImage")));  this->button6->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button6->Location =  System::Drawing::Point(293, 47);  this->button6->Name = L"button6";  this->button6->Size = System::Drawing::Size(74, 33);  this->button6->TabIndex = 7;  this->button6->UseVisualStyleBackColor = true;  this->button6->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button6\_Click);  //  // button7  //  this->button7->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button7.BackgroundImage")));  this->button7->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button7->Location =  System::Drawing::Point(293, 80);  this->button7->Name = L"button7";  this->button7->Size = System::Drawing::Size(74, 33);  this->button7->TabIndex = 8;  this->button7->UseVisualStyleBackColor = true;  this->button7->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button7\_Click);  //  // button8  //  this->button8->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button8.BackgroundImage")));  this->button8->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button8->Location =  System::Drawing::Point(293, 113);  this->button8->Name = L"button8";  this->button8->Size = System::Drawing::Size(74, 33);  this->button8->TabIndex = 9;  this->button8->UseVisualStyleBackColor = true;  this->button8->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button8\_Click);  //  // button9  //  this->button9->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button9.BackgroundImage")));  this->button9->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button9->Location = System::Drawing::Point(88,  47);  this->button9->Name = L"button9";  this->button9->Size = System::Drawing::Size(37, 33);  this->button9->TabIndex = 10;  this->button9->UseVisualStyleBackColor = true;  this->button9->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button9\_Click);  //  // button10  //  this->button10->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button10.BackgroundImage")));  this->button10->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button10->Location =  System::Drawing::Point(88, 80);  this->button10->Name = L"button10";  this->button10->Size = System::Drawing::Size(37,  33);  this->button10->TabIndex = 11;  this->button10->UseVisualStyleBackColor = true;  this->button10->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button10\_Click);  //  // button11  //  this->button11->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button11.BackgroundImage")));  this->button11->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button11->Location =  System::Drawing::Point(88, 14);  this->button11->Name = L"button11";  this->button11->Size = System::Drawing::Size(37,  33);  this->button11->TabIndex = 12;  this->button11->UseVisualStyleBackColor = true;  this->button11->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button11\_Click);  //  // button12  //  this->button12->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button12.BackgroundImage")));  this->button12->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button12->Location =  System::Drawing::Point(125, 14);  this->button12->Name = L"button12";  this->button12->Size = System::Drawing::Size(37,  33);  this->button12->TabIndex = 15;  this->button12->UseVisualStyleBackColor = true;  this->button12->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button12\_Click);  //  // button13  //  this->button13->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button13.BackgroundImage")));  this->button13->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button13->Location =  System::Drawing::Point(125, 80);  this->button13->Name = L"button13";  this->button13->Size = System::Drawing::Size(37,  33);  this->button13->TabIndex = 14;  this->button13->UseVisualStyleBackColor = true;  this->button13->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button13\_Click);  //  // button14  //  this->button14->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button14.BackgroundImage")));  this->button14->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button14->Location =  System::Drawing::Point(125, 47);  this->button14->Name = L"button14";  this->button14->Size = System::Drawing::Size(37,  33);  this->button14->TabIndex = 13;  this->button14->UseVisualStyleBackColor = true;  this->button14->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button14\_Click);  //  // label1  //  this->label1->AutoSize = true;  this->label1->Location = System::Drawing::Point(163,  24);  this->label1->Name = L"label1";  this->label1->Size = System::Drawing::Size(90, 13);  this->label1->TabIndex = 16;  this->label1->Text = L"50 АМЕРИКАНО";  //  // label2  //  this->label2->AutoSize = true;  this->label2->Location = System::Drawing::Point(163,  57);  this->label2->Name = L"label2";  this->label2->Size = System::Drawing::Size(80, 13);  this->label2->TabIndex = 17;  this->label2->Text = L"50 ЭСПРЕССО";  //  // label3  //  this->label3->AutoSize = true;  this->label3->Location = System::Drawing::Point(163,  90);  this->label3->Name = L"label3";  this->label3->Size = System::Drawing::Size(71, 13);  this->label3->TabIndex = 18;  this->label3->Text = L"70 ДОПЛИО";  //  // label4  //  this->label4->AutoSize = true;  this->label4->Location = System::Drawing::Point(29,  24);  this->label4->Name = L"label4";  this->label4->Size = System::Drawing::Size(58, 13);  this->label4->TabIndex = 19;  this->label4->Text = L"ЛАТТЕ 80";  //  // label5  //  this->label5->AutoSize = true;  this->label5->Location = System::Drawing::Point(6,  57);  this->label5->Name = L"label5";  this->label5->Size = System::Drawing::Size(81, 13);  this->label5->TabIndex = 20;  this->label5->Text = L"МАКИАТО 100";  //  // label6  //  this->label6->AutoSize = true;  this->label6->Location = System::Drawing::Point(3,  90);  this->label6->Name = L"label6";  this->label6->Size = System::Drawing::Size(84, 13);  this->label6->TabIndex = 21;  this->label6->Text = L"КАПУЧИНО 90";  //  // button15  //  this->button15->Location =  System::Drawing::Point(88, 113);  this->button15->Name = L"button15";  this->button15->Size = System::Drawing::Size(37,  33);  this->button15->TabIndex = 22;  this->button15->Text = L"+";  this->button15->UseVisualStyleBackColor = true;  this->button15->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button15\_Click);  //  // button16  //  this->button16->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::None;  this->button16->ForeColor =  System::Drawing::SystemColors::ActiveCaptionText;  this->button16->Location =  System::Drawing::Point(125, 113);  this->button16->Name = L"button16";  this->button16->Size = System::Drawing::Size(37,  33);  this->button16->TabIndex = 23;  this->button16->Text = L"-";  this->button16->UseVisualStyleBackColor = true;  this->button16->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button16\_Click);  //  // label7  //  this->label7->AutoSize = true;  this->label7->Location = System::Drawing::Point(45,  123);  this->label7->Name = L"label7";  this->label7->Size = System::Drawing::Size(42, 13);  this->label7->TabIndex = 24;  this->label7->Text = L"САХАР";  //  // pictureBox1  //  this->pictureBox1->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"pictureBox1.BackgroundImage")));  this->pictureBox1->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->pictureBox1->InitialImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"pictureBox1.InitialImage")));  this->pictureBox1->Location =  System::Drawing::Point(6, 18);  this->pictureBox1->Name = L"pictureBox1";  this->pictureBox1->Size = System::Drawing::Size(95,  95);  this->pictureBox1->TabIndex = 25;  this->pictureBox1->TabStop = false;  this->pictureBox1->Visible = false;  this->pictureBox1->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::pictureBox1\_Click);  //  // groupBox1  //  this->groupBox1->BackColor =  System::Drawing::SystemColors::Control;  this->groupBox1->Controls->Add(this->pictureBox1);  this->groupBox1->Location =  System::Drawing::Point(8, 287);  this->groupBox1->Name = L"groupBox1";  this->groupBox1->Size = System::Drawing::Size(108,  122);  this->groupBox1->TabIndex = 26;  this->groupBox1->TabStop = false;  this->groupBox1->Text = L"Выдача кофе";  //  // button17  //  this->button17->Location =  System::Drawing::Point(301, 115);  this->button17->Name = L"button17";  this->button17->Size = System::Drawing::Size(80,  20);  this->button17->TabIndex = 27;  this->button17->Text = L"Сдача";  this->button17->UseVisualStyleBackColor = true;  this->button17->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button17\_Click);  //  // listView1  //  this->listView1->BackColor =  System::Drawing::SystemColors::ButtonHighlight;  this->listView1->BorderStyle =  System::Windows::Forms::BorderStyle::None;  this->listView1->Location =  System::Drawing::Point(6, 12);  this->listView1->Name = L"listView1";  this->listView1->Scrollable = false;  this->listView1->Size = System::Drawing::Size(163,  114);  this->listView1->TabIndex = 40;  this->listView1->UseCompatibleStateImageBehavior =  false;  this->listView1->View =  System::Windows::Forms::View::List;  //  // textBox1  //  this->textBox1->BackColor =  System::Drawing::SystemColors::ButtonHighlight;  this->textBox1->Location =  System::Drawing::Point(253, 115);  this->textBox1->Name = L"textBox1";  this->textBox1->ReadOnly = true;  this->textBox1->Size = System::Drawing::Size(42,  20);  this->textBox1->TabIndex = 41;  this->textBox1->Text = L"0";  this->textBox1->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::textBox1\_Click);  //  // button18  //  this->button18->Location =  System::Drawing::Point(301, 86);  this->button18->Name = L"button18";  this->button18->Size = System::Drawing::Size(80,  23);  this->button18->TabIndex = 42;  this->button18->Text = L"Приготовить";  this->button18->UseVisualStyleBackColor = true;  this->button18->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button18\_Click);  //  // timer1  //  this->timer1->Enabled = true;  this->timer1->Interval = 1000;  this->timer1->Tick += gcnew  System::EventHandler(this,  &CourseWorkForm::timer1\_Tick);  //  // groupBox2  //  this->groupBox2->BackColor =  System::Drawing::SystemColors::Control;  this->groupBox2->Controls->Add(this->listView1);  this->groupBox2->Location =  System::Drawing::Point(8, 4);  this->groupBox2->Name = L"groupBox2";  this->groupBox2->Size = System::Drawing::Size(175,  132);  this->groupBox2->TabIndex = 43;  this->groupBox2->TabStop = false;  //  // progressBar1  //  this->progressBar1->Location =  System::Drawing::Point(70, 13);  this->progressBar1->Name = L"progressBar1";  this->progressBar1->Size = System::Drawing::Size(33,  10);  this->progressBar1->TabIndex = 44;  //  // progressBar2  //  this->progressBar2->Location =  System::Drawing::Point(70, 30);  this->progressBar2->Name = L"progressBar2";  this->progressBar2->Size = System::Drawing::Size(33,  10);  this->progressBar2->TabIndex = 45;  //  // progressBar3  //  this->progressBar3->Location =  System::Drawing::Point(70, 47);  this->progressBar3->Name = L"progressBar3";  this->progressBar3->Size = System::Drawing::Size(33,  10);  this->progressBar3->TabIndex = 46;  //  // progressBar4  //  this->progressBar4->Location =  System::Drawing::Point(70, 63);  this->progressBar4->Name = L"progressBar4";  this->progressBar4->Size = System::Drawing::Size(33,  10);  this->progressBar4->Step = 1;  this->progressBar4->TabIndex = 47;  //  // progressBar5  //  this->progressBar5->Location =  System::Drawing::Point(70, 97);  this->progressBar5->Name = L"progressBar5";  this->progressBar5->Size = System::Drawing::Size(33,  10);  this->progressBar5->Step = 1;  this->progressBar5->TabIndex = 49;  //  // progressBar6  //  this->progressBar6->Location =  System::Drawing::Point(70, 80);  this->progressBar6->Name = L"progressBar6";  this->progressBar6->Size = System::Drawing::Size(33,  10);  this->progressBar6->Step = 1;  this->progressBar6->TabIndex = 48;  //  // label8  //  this->label8->AutoSize = true;  this->label8->Location = System::Drawing::Point(23,  10);  this->label8->Name = L"label8";  this->label8->Size = System::Drawing::Size(45, 13);  this->label8->TabIndex = 50;  this->label8->Text = L"молоко";  //  // label9  //  this->label9->AutoSize = true;  this->label9->Location = System::Drawing::Point(35,  27);  this->label9->Name = L"label9";  this->label9->Size = System::Drawing::Size(33, 13);  this->label9->TabIndex = 51;  this->label9->Text = L"кофе";  //  // label10  //  this->label10->AutoSize = true;  this->label10->Location = System::Drawing::Point(5,  44);  this->label10->Name = L"label10";  this->label10->Size = System::Drawing::Size(63, 13);  this->label10->TabIndex = 52;  this->label10->Text = L"вз. молоко";  //  // label11  //  this->label11->AutoSize = true;  this->label11->Location = System::Drawing::Point(30,  60);  this->label11->Name = L"label11";  this->label11->Size = System::Drawing::Size(38, 13);  this->label11->TabIndex = 53;  this->label11->Text = L"чашки";  //  // label12  //  this->label12->AutoSize = true;  this->label12->Location = System::Drawing::Point(37,  78);  this->label12->Name = L"label12";  this->label12->Size = System::Drawing::Size(31, 13);  this->label12->TabIndex = 54;  this->label12->Text = L"вода";  //  // label13  //  this->label13->AutoSize = true;  this->label13->Location = System::Drawing::Point(32,  94);  this->label13->Name = L"label13";  this->label13->Size = System::Drawing::Size(36, 13);  this->label13->TabIndex = 55;  this->label13->Text = L"сахар";  //  // groupBox3  //  this->groupBox3->Controls->Add(this->button12);  this->groupBox3->Controls->Add(this->button1);  this->groupBox3->Controls->Add(this->button2);  this->groupBox3->Controls->Add(this->button3);  this->groupBox3->Controls->Add(this->button4);  this->groupBox3->Controls->Add(this->button5);  this->groupBox3->Controls->Add(this->button6);  this->groupBox3->Controls->Add(this->button7);  this->groupBox3->Controls->Add(this->button8);  this->groupBox3->Controls->Add(this->button9);  this->groupBox3->Controls->Add(this->button10);  this->groupBox3->Controls->Add(this->button11);  this->groupBox3->Controls->Add(this->button14);  this->groupBox3->Controls->Add(this->button13);  this->groupBox3->Controls->Add(this->label1);  this->groupBox3->Controls->Add(this->label2);  this->groupBox3->Controls->Add(this->label3);  this->groupBox3->Controls->Add(this->label4);  this->groupBox3->Controls->Add(this->label7);  this->groupBox3->Controls->Add(this->label5);  this->groupBox3->Controls->Add(this->button16);  this->groupBox3->Controls->Add(this->label6);  this->groupBox3->Controls->Add(this->button15);  this->groupBox3->Location =  System::Drawing::Point(8,  135);  this->groupBox3->Name = L"groupBox3";  this->groupBox3->Size = System::Drawing::Size(373,  154);  this->groupBox3->TabIndex = 56;  this->groupBox3->TabStop = false;  //  // button19  //  this->button19->Location =  System::Drawing::Point(107,  93);  this->button19->Name = L"button19";  this->button19->Size = System::Drawing::Size(74,  23);  this->button19->TabIndex = 57;  this->button19->Text = L"Пополнить";  this->button19->UseVisualStyleBackColor = true;  this->button19->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button19\_Click);  //  // groupBox4  //  this->groupBox4->Controls->Add(this->label18);  this->groupBox4->Controls->Add(this->label19);  this->groupBox4->Controls->Add(this->label20);  this->groupBox4->Controls->Add(this->label21);  this->groupBox4->Controls->Add(this->label16);  this->groupBox4->Controls->Add(this->label17);  this->groupBox4->Controls->Add(this->label15);  this->groupBox4->Controls->Add(this->label14);  this->groupBox4->Controls->Add(this->button21);  this->groupBox4->Controls->Add(this->label9);  this->groupBox4->Controls->Add(this->button19);  this->groupBox4->Controls->Add(this->progressBar1);  this->groupBox4->Controls->Add(this->progressBar2);  this->groupBox4->Controls->Add(this->label13);  this->groupBox4->Controls->Add(this->progressBar3);  this->groupBox4->Controls->Add(this->label12);  this->groupBox4->Controls->Add(this->progressBar4);  this->groupBox4->Controls->Add(this->label11);  this->groupBox4->Controls->Add(this->progressBar6);  this->groupBox4->Controls->Add(this->label10);  this->groupBox4->Controls->Add(this->progressBar5);  this->groupBox4->Controls->Add(this->label8);  this->groupBox4->Location =  System::Drawing::Point(122,  288);  this->groupBox4->Name = L"groupBox4";  this->groupBox4->Size = System::Drawing::Size(259,  122);  this->groupBox4->TabIndex = 58;  this->groupBox4->TabStop = false;  this->groupBox4->Visible = false;  //  // label18  //  this->label18->AutoSize = true;  this->label18->Location =  System::Drawing::Point(165, 18);  this->label18->Name = L"label18";  this->label18->Size = System::Drawing::Size(41, 13);  this->label18->TabIndex = 66;  this->label18->Text = L"label18";  //  // label19  //  this->label19->AutoSize = true;  this->label19->Location =  System::Drawing::Point(165, 35);  this->label19->Name = L"label19";  this->label19->Size = System::Drawing::Size(41, 13);  this->label19->TabIndex = 65;  this->label19->Text = L"label19";  //  // label20  //  this->label20->AutoSize = true;  this->label20->Location =  System::Drawing::Point(165, 51);  this->label20->Name = L"label20";  this->label20->Size = System::Drawing::Size(41, 13);  this->label20->TabIndex = 64;  this->label20->Text = L"label20";  //  // label21  //  this->label21->AutoSize = true;  this->label21->Location =  System::Drawing::Point(165, 68);  this->label21->Name = L"label21";  this->label21->Size = System::Drawing::Size(41, 13);  this->label21->TabIndex = 63;  this->label21->Text = L"label21";  //  // label16  //  this->label16->AutoSize = true;  this->label16->Location =  System::Drawing::Point(118, 18);  this->label16->Name = L"label16";  this->label16->Size = System::Drawing::Size(41, 13);  this->label16->TabIndex = 62;  this->label16->Text = L"label16";  //  // label17  //  this->label17->AutoSize = true;  this->label17->Location =  System::Drawing::Point(118, 35);  this->label17->Name = L"label17";  this->label17->Size = System::Drawing::Size(41, 13);  this->label17->TabIndex = 61;  this->label17->Text = L"label17";  //  // label15  //  this->label15->AutoSize = true;  this->label15->Location =  System::Drawing::Point(118, 51);  this->label15->Name = L"label15";  this->label15->Size = System::Drawing::Size(41, 13);  this->label15->TabIndex = 60;  this->label15->Text = L"label15";  //  // label14  //  this->label14->AutoSize = true;  this->label14->Location =  System::Drawing::Point(118, 68);  this->label14->Name = L"label14";  this->label14->Size = System::Drawing::Size(41, 13);  this->label14->TabIndex = 59;  this->label14->Text = L"label14";  //  // button21  //  this->button21->Location =  System::Drawing::Point(179,  93);  this->button21->Name = L"button21";  this->button21->Size = System::Drawing::Size(76,  23);  this->button21->TabIndex = 58;  this->button21->Text = L"Инкасация";  this->button21->UseVisualStyleBackColor = true;  this->button21->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button21\_Click);  //  // button20  //  this->button20->BackgroundImage =  (cli::safe\_cast<System::Drawing::Image^>(resources-  >GetObject(L"button20.BackgroundImage")));  this->button20->BackgroundImageLayout =  System::Windows::Forms::ImageLayout::Zoom;  this->button20->FlatStyle =  System::Windows::Forms::FlatStyle::Popup;  this->button20->Location =  System::Drawing::Point(348, 4);  this->button20->Name = L"button20";  this->button20->Size = System::Drawing::Size(33,  31);  this->button20->TabIndex = 59;  this->button20->UseVisualStyleBackColor = true;  this->button20->Click += gcnew  System::EventHandler(this,  &CourseWorkForm::button20\_Click);  //  // openFileDialog1  //  this->openFileDialog1->FileName =  L"openFileDialog1";  //  // CourseWorkForm  //  this->AutoScaleDimensions =  System::Drawing::SizeF(6, 13);  this->AutoScaleMode =  System::Windows::Forms::AutoScaleMode::Font;  this->BackColor =  System::Drawing::SystemColors::Control;  this->ClientSize = System::Drawing::Size(390, 417);  this->Controls->Add(this->button20);  this->Controls->Add(this->groupBox4);  this->Controls->Add(this->groupBox3);  this->Controls->Add(this->groupBox2);  this->Controls->Add(this->button18);  this->Controls->Add(this->textBox1);  this->Controls->Add(this->button17);  this->Controls->Add(this->groupBox1);  this->FormBorderStyle =    System::Windows::Forms::FormBorderStyle::FixedSingle;  this->Name = L"CourseWorkForm";  this->Text = L"Кофейный Автомат";  this->Load += gcnew System::EventHandler(this,  &CourseWorkForm::CourseWorkForm\_Load);  (cli::safe\_cast<System::ComponentModel::  ISupportInitialize^>(this-  >pictureBox1))->EndInit();  this->groupBox1->ResumeLayout(false);  this->groupBox2->ResumeLayout(false);  this->groupBox3->ResumeLayout(false);  this->groupBox3->PerformLayout();  this->groupBox4->ResumeLayout(false);  this->groupBox4->PerformLayout();  this->ResumeLayout(false);  this->PerformLayout();  }  #pragma endregion  private: System::Void CourseWorkForm\_Load(System::Object^ sender,  System::EventArgs^ e)  {  listView1->Items->Insert(0, "Добро пожаловать");  listView1->Items->Insert(1, "Внесите деньги:");  listView1->Items->Insert(2, " ");  listView1->Items->Insert(3, " ");  listView1->Items->Insert(4, " ");  listView1->Items->Insert(5, " ");  if (!coffee\_machine.check\_resourсes() ||  !coffee\_machine.check\_money())  {  button17->Enabled = false;  groupBox3->Enabled = false;  listView1->Items->RemoveAt(0);  listView1->Items->Insert(0, "Аппарат временно не  работает");  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, " ");  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, " ");  type\_coffee = 0;  sugar = -1;  }  }  //Кнопка сдачи//////////////////////////////////////////  private: System::Void button17\_Click(System::Object^ sender,  System::EventArgs^ e)  {  listView1->Items->Clear();  listView1->Items->Insert(0, "Добро пожаловать");  listView1->Items->Insert(1, "Внесите деньги:");  listView1->Items->Insert(2, " ");  listView1->Items->Insert(3, " ");  listView1->Items->Insert(4, " ");  listView1->Items->Insert(5, " ");  textBox1->Text = coffee\_machine.return\_credit().ToString();  type\_coffee = 0;  sugar = -1;  if (!coffee\_machine.check\_money())  {  button17->Enabled = false;  groupBox3->Enabled = false;  listView1->Items->RemoveAt(0);  listView1->Items->Insert(0, "Аппарат временно не  работает");  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, " ");  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, " ");  type\_coffee = 0;  sugar = -1;  }  }  //Забрать кофе////////////////////////////////////////  private: System::Void pictureBox1\_Click(System::Object^ sender,  System::EventArgs^ e)  {  pictureBox1->Visible = false;  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  }  // кнопки с деньгами///////////////////////////////////  private: System::Void button8\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(4);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button7\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(5);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button6\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(6);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button5\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(7);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button4\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(3);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button3\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(2);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }    private: System::Void button1\_Click(System::Object^ sender,0  System::EventArgs^ e)  {  coffee\_machine.add\_credit(0);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  private: System::Void button2\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.add\_credit(1);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  if (type\_coffee == 0)  {  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:");  }  }  // Кнопки с кофе////////////////////////////////////////  private: System::Void button12\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 50)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:  АМЕРИКАНО");  type\_coffee = 1;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  private: System::Void button13\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 70)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:  ДОПЛИО");  type\_coffee = 3;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  private: System::Void button14\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 50)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:  ЭСПРЕССО");  type\_coffee = 2;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  private: System::Void button10\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 90)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:  КАПУЧИНО");  type\_coffee = 6;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  private: System::Void button9\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 100)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе:  МАККИАТО");  type\_coffee = 5;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  private: System::Void button11\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (coffee\_machine.get\_credit() >= 80)  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, "Выберите кофе: ЛАТТЕ");  type\_coffee = 4;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Внесите деньги!");  }  if (sugar == -1 && type\_coffee != 0)  {  sugar = 0;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  //Кнопки сахара/////////////////////////////////////////  private: System::Void button15\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (type\_coffee != 0)  {  if (sugar != -1 && type\_coffee != 0 && sugar < 5)  {  sugar++;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Выбирите кофе");  }  }  private: System::Void button16\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (type\_coffee != 0)  {  if (sugar != -1 && type\_coffee != 0 && sugar > 0)  {  sugar--;  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, "Выберите колл-во  сахара: " + sugar.ToString());  }  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Выберите кофе");  }  }  ////////////////////////////////////////////////////////  private: System::Void timer1\_Tick(System::Object^ sender,  System::EventArgs^ e)  {  progressBar1->Value = coffee\_machine.get\_resource(0);  progressBar6->Value = coffee\_machine.get\_resource(1);  progressBar2->Value = coffee\_machine.get\_resource(2);  progressBar4->Value = coffee\_machine.get\_resource(3);  progressBar5->Value = coffee\_machine.get\_resource(4);  progressBar3->Value = coffee\_machine.get\_resource(5);  label14->Text = "1 - " +  coffee\_machine.get\_money(0).ToString();  label15->Text = "2 - " +  coffee\_machine.get\_money(1).ToString();  label17->Text = "5 - " +  coffee\_machine.get\_money(2).ToString();  label16->Text = "10 - " +  coffee\_machine.get\_money(3).ToString();  label21->Text = "50 - " +  coffee\_machine.get\_money(4).ToString();  label20->Text = "100 - " +  coffee\_machine.get\_money(5).ToString();  label19->Text = "500 - " +  coffee\_machine.get\_money(6).ToString();  label18->Text = "1000 - " + coffee\_machine.get\_money(7)  .ToString();  }  //Кнопка приготовить////////////////////////////////////  private: System::Void button18\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (type\_coffee != 0 && sugar != -1 &&  coffee\_machine.get\_credit()  >= coffee\_machine.get\_price(type\_coffee))  {  if (pictureBox1->Visible == false)  {  coffee\_machine.buy\_coffee  (coffee\_machine.get\_price(type\_coffee));  coffee\_machine.make\_cup\_coffee(type\_coffee,  sugar);  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Кредит: " +  coffee\_machine.get\_credit().ToString());  pictureBox1->Visible = true;  }  else  {  listView1->Items->RemoveAt(5);  listView1->Items->Insert(5, "Заберите кофе");  }  }  if (coffee\_machine.get\_credit() == 0)  {  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Внесите деньги: ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, " ");  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, " ");  listView1->Items->RemoveAt(4);  listView1->Items->Insert(4, " ");  type\_coffee = 0;  sugar = -1;  }  if (!coffee\_machine.check\_resourсes())  {  button17->Enabled = false;  groupBox3->Enabled = false;  listView1->Items->RemoveAt(0);  listView1->Items->Insert(0, "Аппарат временно не  работает");  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, " ");  listView1->Items->RemoveAt(2);  listView1->Items->Insert(2, " ");  listView1->Items->RemoveAt(3);  listView1->Items->Insert(3, " ");  textBox1->Text =  coffee\_machine.return\_credit().ToString();  type\_coffee = 0;  sugar = -1;  }  }  //Кнопка сдачи//////////////////////////////////////////  private: System::Void textBox1\_Click(System::Object^ sender,  System::EventArgs^ e)  {  textBox1->Text = "0";  }  //Кнопка пополнения ресурсов////////////////////////////  private: System::Void button19\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.replenishment\_resourсe();  if (coffee\_machine.check\_money())  {  groupBox3->Enabled = true;  button17->Enabled = true;  listView1->Items->RemoveAt(0);  listView1->Items->Insert(0, "Добро пожаловать");  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Внесите деньги:");  }  }  private: System::Void button20\_Click(System::Object^ sender,  System::EventArgs^ e)  {  if (groupBox4->Visible) groupBox4->Visible = false;  else groupBox4->Visible = true;  }  private: System::Void button21\_Click(System::Object^ sender,  System::EventArgs^ e)  {  coffee\_machine.incasate();  if (coffee\_machine.check\_resourсes())  {  groupBox3->Enabled = true;  button17->Enabled = true;  listView1->Items->RemoveAt(0);  listView1->Items->Insert(0, "Добро пожаловать");  listView1->Items->RemoveAt(1);  listView1->Items->Insert(1, "Внесите деньги:");  }  }  };  } |

Листинг 2. Исходный код модуля CourseWorkForm.h

|  |
| --- |
| #include "Bank.h"  #include "iostream"  // Реализация конструктора  Bank::Bank()  {  \_credit = 0;  ifstream file;  file.open("profit.txt");  if (file.is\_open())  {  for (int i = 0; i < 8; i++)  {  Money money;  try  {  if (file.peek() == EOF) throw 404;  int buffer;  file >> buffer;  money.set\_count(buffer);  file >> buffer;  money.set\_nominal(buffer);  this->\_money[i] = money;  }  catch(int throw1)  {  money.set\_count(10);  if (i == 0) money.set\_nominal(1);  if (i == 1) money.set\_nominal(2);  if (i == 2) money.set\_nominal(5);  if (i == 3) money.set\_nominal(10);  if (i == 4) money.set\_nominal(50);  if (i == 5) money.set\_nominal(100);  if (i == 6) money.set\_nominal(500);  if (i == 7) money.set\_nominal(1000);  this->\_money[i] = money;  }  }  }  file.close();  }  // Реализация деструктора  Bank::~Bank()  {  ofstream file;  file.open("profit.txt");  if (file.is\_open())  {  for (int i = 0; i < 8; i++)  {  file << \_money[i].get\_count() << " " <<  \_money[i].get\_nominal() << endl;  }  }  file.close();  }  // Реализация метода возврата сдачи  int Bank::return\_credit()  {  int credit = \_credit;  while (\_credit != 0)  {  if (\_credit >= \_money[7].get\_nominal())  {  \_credit -= \_money[7].get\_nominal();  \_money[7].set\_count(\_money[7].get\_count() - 1);  }  else  {  if (\_credit >= \_money[6].get\_nominal())  {  \_credit -= \_money[6].get\_nominal();  \_money[6].set\_count(\_money[6].get\_count() - 1);  }  else  {  if (\_credit >= \_money[5].get\_nominal())  {  \_credit -= \_money[5].get\_nominal();  \_money[5].set\_count(\_money[5].get\_count()  - 1);  }  else  {  if (\_credit >= \_money[4].get\_nominal())  {  \_credit -=  \_money[4].get\_nominal();  \_money[4].set\_count(\_money[4]  .get\_count() - 1);  }  else  {  if (\_credit >=  \_money[3].get\_nominal())  {  \_credit -= \_money[3]  .get\_nominal();  \_money[3].set\_count  (\_money[3].get\_count() - 1);  }  else  {  if (\_credit >=  \_money[2].get\_nominal())  {  \_credit -= \_money[2]  .get\_nominal();  \_money[2].set\_count  (\_money[2].get\_count()  - 1);  }  else  {  if (\_credit >= \_money[1]  .get\_nominal())  {  \_credit -= \_money[1]  .get\_nominal();  \_money[1].set\_count  (\_money[1].get\_count() –  1);  }  else  {  if (\_credit >= \_money[0]  .get\_nominal())  {  \_credit -= \_money[0]  .get\_nominal();  \_money[0].set\_count  (\_money[0].get\_count()  - 1);  }  }  }  }  }  }  }  }  }  return credit;  }  // Реализация метода проверки кассы на наличие бакнот и монет  bool Bank::check\_money()  {  for (int i = 0; i < 8; i++)  {  if (\_money[i].get\_count() < 5) return false;  }  return true;  }  // Реализация метода добавление денег к кредиту  void Bank::add\_credit(int index)  {  \_money[index].set\_count(\_money[index].get\_count() + 1);  \_credit += \_money[index].get\_nominal();  }  // Реализация метода возвращения колличества купюр или монет  int Bank::get\_money(int index)  {  return \_money[index].get\_count();  }  // Реализация метода взвращения кредита  int Bank::get\_credit()  {  return \_credit;  }  // Реализация метода инкасации  void Bank::incasate()  {  for (int i = 0; i < 8; i++) \_money[i].set\_count(50);  }  // Реализация метода пкупки кофе  void Bank::buy\_coffee(int price)  {  \_credit = \_credit - price;  } |

Листинг 3. Исходный код модуля Bank.cpp

|  |
| --- |
| #pragma once  #include "Money.h"  #include "fstream"  using namespace std;  class Bank  {  private:  int \_credit;  Money \_money[8];  public:  // Конструктор  Bank();  // Деструктор  ~Bank();  // Метод возвращения кредита  int return\_credit();  // Метод проверки наличия купюр и монет  bool check\_money();  // Метод добавления денег к кредиту  void add\_credit(int);  // Метод получения кол-ва денег  int get\_money(int);  // Метод получения credit  int get\_credit();  // Метод инкасации  void incasate();  // Метод покупки кофе  void buy\_coffee(int);  }; |

Листинг 4. Исходный код модуля Bank.h

|  |
| --- |
| #include "Coffee\_machine.h"  #include "iostream"  #include "string"  using namespace System;  // Функция преобразования String^ d string  void String\_a(System::String ^ s, string& os)  {  using namespace Runtime::InteropServices;  const char\* chars = (const  char\*)(Marshal::StringToHGlobalAnsi(s)).ToPointer();  os = chars;  Marshal::FreeHGlobal(IntPtr((void\*)chars));  }  // Реализация конструктора  Coffee\_machine::Coffee\_machine()  {  ifstream file;  file.open("resourses.txt");  if (file.is\_open())  for (int i = 0; i < 6; i++)  {  Consumables resourсe;  try  {  int buffer;  string name;  file >> buffer;  getline(file, name);  resourсe.set\_count(buffer);  resourсe.set\_name(name);  \_resourсes[i] = resourсe;  }  catch(int throw1)  {  if (i = 0)  {  resourсe.set\_count(10);  resourсe.set\_name("milk");  \_resourсes[i] = resourсe;  }  if (i = 1)  {  resourсe.set\_count(10);  resourсe.set\_name("water");  \_resourсes[i] = resourсe;  }  if (i = 2)  {  resourсe.set\_count(10);  resourсe.set\_name("coffee");  \_resourсes[i] = resourсe;  }  if (i = 3)  {  resourсe.set\_count(10);  resourсe.set\_name("cup");  \_resourсes[i] = resourсe;  }  if (i = 4)  {  resourсe.set\_count(10);  resourсe.set\_name("sugar");  \_resourсes[i] = resourсe;  }  if (i = 5)  {  resourсe.set\_count(10);  resourсe.set\_name("whipped\_milk");  \_resourсes[i] = resourсe;  }  }  }  file.close();  }  // Реализация деструктора  Coffee\_machine::~Coffee\_machine()  {  ofstream file;  string str;  file.open("resourses.txt");  if (file.is\_open())  {  for (int i = 0; i < 6; i++)  {  String\_a(\_resourсes[i].get\_count().ToString(), str);  file << str << \_resourсes[i].get\_name() << endl;  }  }  file.close();  }  // Реализация метода получения цены кофе по индексу  int Coffee\_machine::get\_price(int type\_coffee)  {  int price;  switch (type\_coffee)  {  case 1:  price = 50;  break;  case 2:  price = 50;  break;  case 3:  price = 70;  break;  case 4:  price = 80;  break;  case 5:  price = 100;  break;  case 6:  price = 90;  break;  default:  price = 0;  break;  }  return price;  }  // Реализация метода получения кол-ва ресурсов по индексу  int Coffee\_machine::get\_resource(int index)  {  return \_resourсes[index].get\_count();  }  // Реализация метода проверки наличия ресурсов  bool Coffee\_machine::check\_resourсes()  {  for (int i = 0; i < 6; i++)  if (\_resourсes[i].get\_count() < 5) return false;  return true;  }  // Реализация метода пополнения ресурсов  void Coffee\_machine::replenishment\_resourсe()  {  for (int i = 0; i < 6; i++) \_resourсes[i].set\_count(100);  }  // Реализация метода приготовления кофе  void Coffee\_machine::make\_cup\_coffee(int type\_coffee, int sugar)  {  switch (type\_coffee)  {  // Американо  case 1:  \_resourсes[0].take\_resourсe(0);  \_resourсes[1].take\_resourсe(3);  \_resourсes[2].take\_resourсe(1);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(0);  break;  // Эспрессо  case 2:  \_resourсes[0].take\_resourсe(0);  \_resourсes[1].take\_resourсe(0);  \_resourсes[2].take\_resourсe(1);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(0);  break;  // Доплио  case 3:  \_resourсes[0].take\_resourсe(0);  \_resourсes[1].take\_resourсe(0);  \_resourсes[2].take\_resourсe(2);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(0);  break;  // Латте  case 4:  \_resourсes[0].take\_resourсe(2);  \_resourсes[1].take\_resourсe(0);  \_resourсes[2].take\_resourсe(1);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(1);  break;  // Макиато  case 5:  \_resourсes[0].take\_resourсe(0);  \_resourсes[1].take\_resourсe(0);  \_resourсes[2].take\_resourсe(2);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(1);  break;  // Капучино  case 6:  \_resourсes[0].take\_resourсe(1);  \_resourсes[1].take\_resourсe(0);  \_resourсes[2].take\_resourсe(1);  \_resourсes[3].take\_resourсe(1);  \_resourсes[4].take\_resourсe(sugar);  \_resourсes[5].take\_resourсe(2);  break;  default:  break;  }  }  // Реализация метода выдачи сдачи  int Coffee\_machine::return\_credit()  {  return \_bank.return\_credit();  }  // Реализация метода проверки наличия купюр и монет  bool Coffee\_machine::check\_money()  {  return \_bank.check\_money();  }  // Реализация метода добавления денег к кедиту  void Coffee\_machine::add\_credit(int count)  {  \_bank.add\_credit(count);  }  // Реализация метода проверки кол-во купюр и монет  int Coffee\_machine::get\_money(int index)  {  return \_bank.get\_money(index);  }  // Реализация метода получения кредита  int Coffee\_machine::get\_credit()  {  return \_bank.get\_credit();  }  // Реализация метода инкасации  void Coffee\_machine::incasate()  {  \_bank.incasate();  }  // Реализация метода покупки кофе  void Coffee\_machine::buy\_coffee(int price)  {  \_bank.buy\_coffee(price);  } |

Листинг 5. Исходный код модуля Coffee\_machine.cpp

|  |
| --- |
| #pragma once  #include "Consumables.h"  #include "Bank.h"  #include "iostream"  #include "fstream"  #include "string"  using namespace std;  class Coffee\_machine  {  private:  Bank \_bank;  Consumables \_resourсes[6];  public:  // Конструктор по умолчению  Coffee\_machine();  // Деструктор  ~Coffee\_machine();  // Метод получения цены кофе  int get\_price(int);  // Метод получения кол-ва ресурсов по индексу  int get\_resource(int);  // Метод проверки ресурсов  bool check\_resourсes();  // Метод Пополнения ресурсов  void replenishment\_resourсe();  // Метод приготовления кофе  void make\_cup\_coffee(int, int);  // Метод выдачи сдачи  int return\_credit();  // Метод проверки наличия есурсов  bool check\_money();  // Метод добавления денег к кредиту  void add\_credit(int);    // Метод получения значения money  int get\_money(int);  // Метод получения значения credit  int get\_credit();  // Метод инкасации  void incasate();  // Метод покупки кофе  void buy\_coffee(int);  }; |

Листинг 6. Исходный код модуля Coffee\_machine.h

|  |
| --- |
| #include "Consumables.h"  // Реализация конструктора по умолчанию  Consumables::Consumables()  {  \_count = 0;  \_name = "";  }  // Реализация конструктора с параметрами  Consumables::Consumables(int count, string name)  {  this->\_count = count;  this->\_name = name;  }  // Реализация деструктора  Consumables::~Consumables()  {  }  // Реализация метода установки значения count  void Consumables::set\_count(int count)  {  this->\_count = count;  }  // Реализация метода установки значения name  void Consumables::set\_name(string name)  {  this->\_name = name;  }  // Реализация метода получения значения count  int Consumables::get\_count()  {  return \_count;  }  // Реализация метода получения значения name  string Consumables::get\_name()  {  return \_name;  }  // Реализация метода взятия ресурса  void Consumables::take\_resourсe(int count)  {  this->\_count -= count;  } |

Листинг 7. Исходный код модуля Consumables.cpp

|  |
| --- |
| #pragma once  #include "iostream"  using namespace std;  class Consumables  {  private:  int \_count;  string \_name;  public:  // Конструктор по умолчанию  Consumables();  // Конструктор с параметрами  Consumables(int, string);  // Деструктор  ~Consumables();  // Метод устанавки значения count  void set\_count(int);  // Метод установки значения name  void set\_name(string);  // Метод получения значения count  int get\_count();  // Метод получения значения name  string get\_name();  // Метод взятия ресурса  void take\_resourсe(int);  }; |

Листинг 8. Исходный код модуля Consumables.h

|  |
| --- |
| #include "Money.h"  // Реализация конструктора по умолчанию  Money::Money()  {  \_count = 0;  \_nominal = 0;  }  // Реализация конструктора с параметрами  Money::Money(int count, int nominal)  {  this->\_count = count;  this->\_nominal = nominal;  }  // Реализация деструктора  Money::~Money()  {  }  // Реализация метода возвращения count  int Money::get\_count()  {  return \_count;  }  // Реализация метода установки значения count  void Money::set\_count(int count)  {  this->\_count = count;  }  // Реализация метода возвращения nominal  int Money::get\_nominal()  {  return \_nominal;  }  // Реализация метода установки значения nominal  void Money::set\_nominal(int nominal)  {  this->\_nominal = nominal;  } |

Листинг 9. Исходный код модуля Money.cpp

|  |
| --- |
| #pragma once  class Money  {  private:  int \_count;  int \_nominal;  public:  // Конструктор по умолчанию  Money();  // Конструктор с параметрами  Money(int, int);  // Деструктор  ~Money();  // Метод возвращения count  int get\_count();  // Метод установки значения count  void set\_count(int);    // Метод возвращения nominal  int get\_nominal();  // метод установки значения nominal  void set\_nominal(int);  }; |

Листинг 10. Исходный код модуля