

Raport z wykonania ćwiczenia EntityFramework, LINQ2Entities

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Spis treści

1	Kod źródłowy	2
1.1	Definicja klasy Category	2
1.2	Definicja klasy Product	2
1.3	Definicja klasy Customer	3
1.4	Definicja klasy Order	3
1.5	Definicja klasy ProdContext	4
1.6	Definicja funkcji AddCategory	4
1.7	Definicja funkcji AddProduct	4
1.8	Definicja całej klasy Program	5
2	Bindowanie danych do komórek	7
2.1	Wygląd formularza CategoryForm	7
2.2	Ustawienie pola CategoryID jako pole wyłącznie do odczytu	8
2.3	Ustawienie pola ProductId jako pole wyłącznie do odczytu	8
2.4	Metoda Load formularza CategoryForm	8
2.5	Wynik działania, gdy klikniemy jakąś kategorię	9
3	Method syntax vs query syntax	10
3.1	Widok wszystkich kategorii z bazy	10
3.2	Widok wszystkich produktów z bazy	10
3.3	Wypisanie kategorii i produktów (różne sposoby)	11
4	Dodawanie nowych zamówień	12
4.1	Definicja metody onAddOrderClick oraz metod pomocniczych	12
4.2	Opis sposobu działania widoku	12
4.3	Widok dodawania zamówienia:	13
5	Wykonanie migracje	14
6	Kod CategoryForm.cs oraz CategoryForm.Designer.cs	18

1 Kod źródłowy

1.1 Definicja klasy Category

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class Category
    {
        public int CategoryId { get; set; }
        public string Name { get; set; }
        public string Description { get; set; }
        public virtual List<Product> Products { get; set; }
    }
}
```

1.2 Definicja klasy Product

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class Product
    {
        public int productId { get; set; }
        public string Name { get; set; }
        public int UnitsInStock { get; set; }

        public int CategoryID { get; set; }
        public virtual Category Category { get; set; }

        public decimal Unitprice { get; set; }
    }
}
```

1.3 Definicja klasy Customer

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class Customer
    {
        [Key]
        public String CompanyName { get; set; }
        public String Description { get; set; }
    }
}
```

1.4 Definicja klasy Order

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using System.ComponentModel.DataAnnotations.Schema;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class Order
    {
        public int OrderID { get; set; }
        public int ProductID { get; set; }
        public virtual Product Product { get; set; }

        public int Quantity { get; set; }

        [Required]
        [ForeignKey("Customer")]
        public String CustomerName { get; set; }
        public virtual Customer Customer { get; set; }
    }
}
```

1.5 Definicja klasy ProdContext

```
using entity_framework_linq2entries;
using System;
using System.Collections.Generic;
using System.Data.Entity;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class ProdContext : DbContext
    {
        public DbSet<Category> Categories { get; set; }
        public DbSet<Product> Products { get; set; }
        public DbSet<Customer> Customers { get; set; }
        public DbSet<Order> Orders { get; set; }
    }
}
```

1.6 Definicja funkcji AddCategory

```
static void AddCategory(ProdContext ctx)
{
    Console.WriteLine("Enter the category name");
    string Name = Console.ReadLine();
    Category category = new Category();
    category.Name = Name;

    ctx.Categories.Add(category);
    ctx.SaveChanges();
}
```

1.7 Definicja funkcji AddProduct

```
static void AddProduct(ProdContext ctx)
{
    Console.WriteLine("Enter product name");
    string Name = Console.ReadLine();
    Console.WriteLine("Enter product category");
    int CategoryId = Convert.ToInt32(Console.ReadLine());
    Product product = new Product();
    product.Name = Name;
    product.CategoryID = CategoryId;

    ctx.Products.Add(product);
    ctx.SaveChanges();
}
```

1.8 Definicja całej klasy Program

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace entity_framework_linq2entries
{
    class Program
    {
        static void Main(string[] args)
        {
            //ProdContext ctx = new ProdContext();

            //AddCategory(ctx);
            //AddProduct(ctx);
            //ShowAllAvailableCategories(ctx);
            //ShowAllAvailableProducts(ctx);
            ShowCategoryForm();
        }

        static void ShowCategoryForm()
        {
            CategoryForm Form = new CategoryForm();
            Form.ShowDialog();
        }

        static void AddCategory(ProdContext ctx)
        {
            Console.WriteLine("Enter the category name");
            string Name = Console.ReadLine();
            Category category = new Category();
            category.Name = Name;

            ctx.Categories.Add(category);
            ctx.SaveChanges();
        }

        static void AddProduct(ProdContext ctx)
        {
            Console.WriteLine("Enter product name");
            string Name = Console.ReadLine();
            Console.WriteLine("Enter product category");
            int CategoryId = Convert.ToInt32(Console.ReadLine());
            Product product = new Product();
            product.Name = Name;
            product.CategoryID = CategoryId;

            ctx.Products.Add(product);
            ctx.SaveChanges();
        }

        static void ShowAllAvailableCategories(ProdContext ctx)
```


2 Bindowanie danych do komórek

2.1 Wygląd formularza CategoryForm

CategoryForm

1 of 15

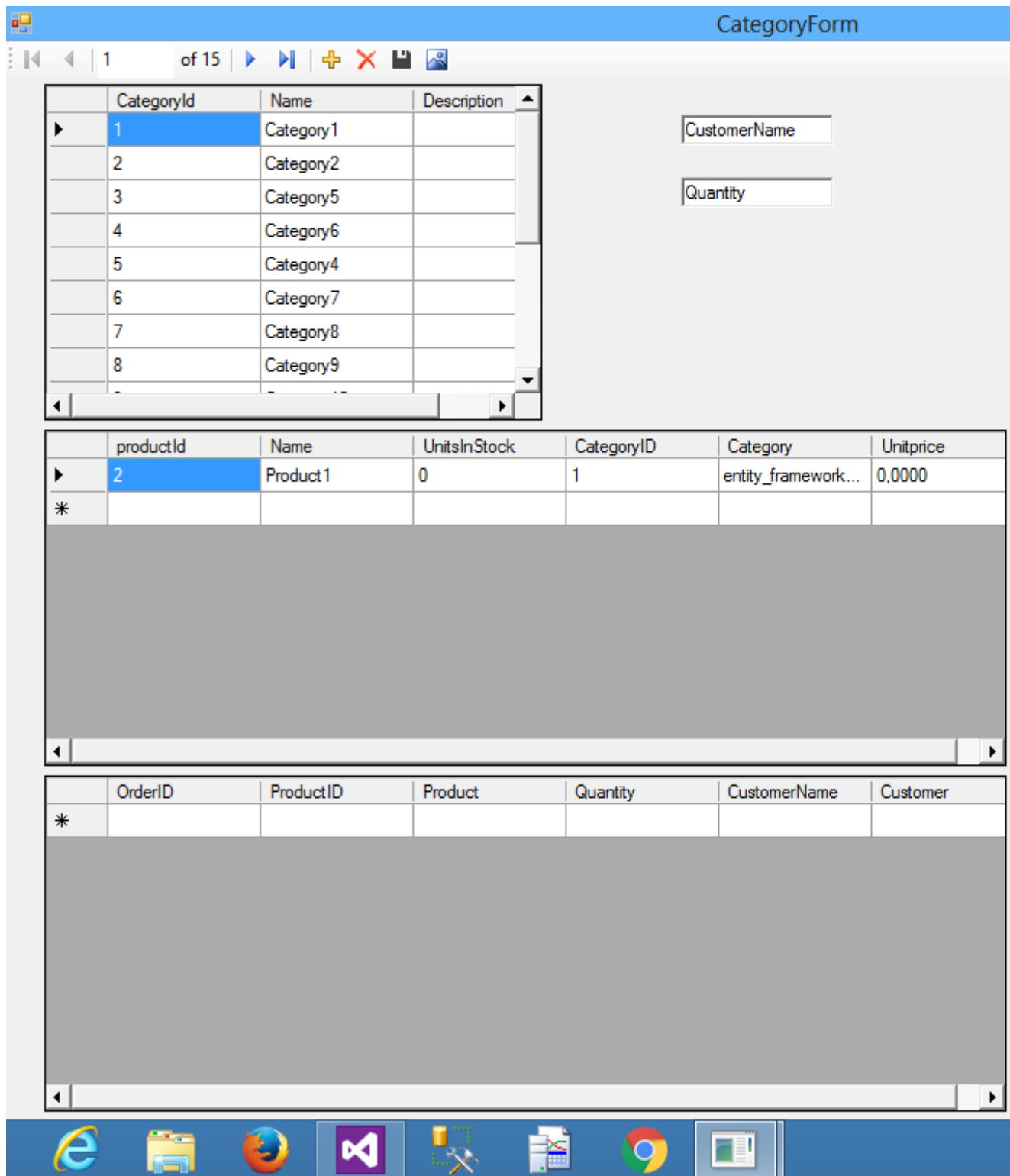
	CategoryId	Name	Description
▶	1	Category1	
	2	Category2	
	3	Category5	
	4	Category6	
	5	Category4	
	6	Category7	
	7	Category8	
	8	Category9	

CustomerName

Quantity

	productId	Name	UnitsInStock	CategoryID	Category	Unitprice
▶	2	Product1	0	1	entity_framework...	0,0000
*						

	OrderID	ProductID	Product	Quantity	CustomerName	Customer
*						



The screenshot displays a Windows application titled 'CategoryForm'. At the top, there is a status bar showing '1 of 15' records. Below this, the application is divided into three main sections. The top section contains a table with 4 columns: 'CategoryId', 'Name', and 'Description'. The first row is selected, showing '1', 'Category1', and an empty description. To the right of this table are two text input fields labeled 'CustomerName' and 'Quantity'. The middle section contains a table with 7 columns: 'productId', 'Name', 'UnitsInStock', 'CategoryID', 'Category', and 'Unitprice'. The first row is selected, showing '2', 'Product1', '0', '1', 'entity_framework...', and '0,0000'. Below this table is a large grey rectangular area. The bottom section contains a table with 7 columns: 'OrderID', 'ProductID', 'Product', 'Quantity', 'CustomerName', and 'Customer'. The first row is selected, showing an asterisk (*) in the first column and empty values in the others. Below this table is another large grey rectangular area. The Windows taskbar is visible at the bottom of the screen, showing icons for Internet Explorer, File Explorer, Firefox, Visual Studio, a folder, a document, Google Chrome, and the application itself.

2.2 Ustawienie pola CategoryID jako pole wyłącznie do odczytu

```
this.dataGridViewTextBoxColumn1.DataPropertyName = "CategoryId";  
this.dataGridViewTextBoxColumn1.HeaderText = "CategoryId";  
this.dataGridViewTextBoxColumn1.Name = "dataGridViewTextBoxColumn1";  
this.dataGridViewTextBoxColumn1.ReadOnly = true;
```

2.3 Ustawienie pola ProductId jako pole wyłącznie do odczytu

```
this.dataGridViewTextBoxColumn4.DataPropertyName = "productId";  
this.dataGridViewTextBoxColumn4.HeaderText = "productId";  
this.dataGridViewTextBoxColumn4.Name = "dataGridViewTextBoxColumn4";  
this.dataGridViewTextBoxColumn4.ReadOnly = true;
```

2.4 Metoda Load formularza CategoryForm

```
protected override void OnLoad(EventArgs e)  
{  
    base.OnLoad(e);  
    context = new ProdContext();  
    context.Categories.Load();  
    context.Products.Load();  
    context.Customers.Load();  
    context.Orders.Load();  
  
    this.categoryBindingSource.DataSource = context.Categories.Local.ToBindingList();  
    this.productBindingSource.DataSource = context.Products.Local.ToBindingList();  
  
    this.orderBindingSource.DataSource = context.Orders.Local.ToBindingList();  
}
```

2.5 Wynik działania, gdy klikniemy jakąś kategorię

W formularzu produktów pokażą się produkty, które należą do danej kategorii

CategoryForm

2 of 15

	CategoryId	Name	Description
	1	Category1	
▶	2	Category2	
	3	Category5	
	4	Category6	
	5	Category4	
	6	Category7	
	7	Category8	
	8	Category9	

CustomerName

Quantity

	productId	Name	UnitsInStock	CategoryID	Category	Unitprice
▶	1002	Product12	0	2	entity_framework...	0,0000
	1003	CoolProduct	0	2	entity_framework...	0,0000
*						

	OrderID	ProductID	Product	Quantity	CustomerName	Customer
*						

3 Method syntax vs query syntax

3.1 Widok wszystkich kategorii z bazy

	CategoryId	Name	Description
1	1	Category1	NULL
2	2	Category2	NULL
3	3	Category5	NULL
4	4	Category6	NULL
5	5	Category4	NULL
6	6	Category7	NULL
7	7	Category8	NULL
8	8	Category9	NULL
9	9	Categor...	NULL
10	10	Categor...	NULL
11	11	Categor...	NULL
12	12	Categor...	NULL
13	1005	Categor...	NULL
14	1006	Categor...	NULL
15	1007	Categor...	NULL

3.2 Widok wszystkich produktów z bazy

	productId	Name	UnitsInStock	CategoryID	Unitprice
1	2	Product 1	0	1	0,00
2	1002	Product 12	0	2	0,00
3	1003	CoolProduct	0	2	0,00

3.3 Wypisanie kategorii i produktów (różne sposoby)

```
static void ShowCategoriesAndProducts(ProdContext ctx)
{
    Console.WriteLine("List of products:");
    foreach (Product p in ctx.Products)
    {
        ctx.Entry(p)
            .Reference(e => e.Category)
            .Load();

        if (null != p.Category)
        {
            Console.WriteLine("Product: {0} {1} in category: {2}", p.productId,
                p.Name, p.Category.Name);
        }
        else
        {
            Console.WriteLine("Product: {0} {1} without category", p.productId,
                p.Name, p.Category.Name);
        }
    }
}
```

```
static void ShowAllAvailableCategories(ProdContext ctx)
{
    Console.WriteLine("All available categories: ");
    foreach (Category c in ctx.Categories)
    {
        Console.WriteLine(c.Name);
    }
}
```

```
static void ShowAllAvailableProducts(ProdContext ctx)
{
    Console.WriteLine("All available products: ");
    foreach (Product p in ctx.Products)
    {
        Console.WriteLine(p.Name);
    }
}
```

4 Dodawanie nowych zamówień

4.1 Definicja metody onAddOrderClick oraz metod pomocniczych

Fragment klasy CategoryForm.cs

Po walidacji odpowiednich textBoxów umożliwia dodanie zamówienia do bazy danych.

```
private void onAddOrderClick(object sender, EventArgs e)
{
    if (isInputValid())
    {
        Order order = new Order();
        order.CustomerName = customerNameTextBox.Text;
        order.Quantity = Convert.ToInt32(quantityTextBox.Text);

        context.Orders.Add(order);
        context.SaveChanges();
    }
}

private bool isInputValid()
{
    return customerNameTextBox.Text != null && isNumeric(quantityTextBox.Text);
}

private bool isNumeric(string s)
{
    return !string.IsNullOrEmpty(s) && s.All(Char.IsDigit);
}
```

4.2 Opis sposobu działania widoku

Widzimy 2 textBoxy, które należy uzupełnić odpowiednimi danymi. Po kliknięciu przycisku save, widzimy podane zamówienie w formularzu zamówień.

4.3 Widok dodawania zamówienia:

CategoryForm

1 of 15

	CategoryId	Name	Description
▶	1	Category1	
	2	Category2	
	3	Category5	
	4	Category6	
	5	Category4	
	6	Category7	
	7	Category8	
	8	Category9	

Customer1337

125

	productId	Name	UnitsInStock	CategoryID	Category	Unitprice
▶	2	Product1	0	1	entity_framework...	0,0000
*						

	OrderID	ProductID	Product	Quantity	CustomerName	Customer
▶	0	0		125	Customer1337	
*						

5 Wykonanie migracje

```
namespace entity_framework_linq2entries.Migrations
{
    using System;
    using System.Data.Entity.Migrations;

    public partial class AddCustomer : DbMigration
    {
        public override void Up()
        {
            CreateTable(
                "dbo.Customers",
                c => new
                {
                    CompanyName = c.String(nullable: false, maxLength: 128),
                    Description = c.String(),
                })
                .PrimaryKey(t => t.CompanyName);
        }

        public override void Down()
        {
            DropTable("dbo.Customers");
        }
    }
}
```

```
namespace entity_framework_linq2entries.Migrations
{
    using System;
    using System.Data.Entity.Migrations;

    public partial class AddDescription : DbMigration
    {
        public override void Up()
        {
            AddColumn("dbo.Categories", "Description", c => c.String());
        }

        public override void Down()
        {
            DropColumn("dbo.Categories", "Description");
        }
    }
}
```

```
namespace entity_framework_linq2entries.Migrations
{
    using System;
    using System.Data.Entity.Migrations;

    public partial class AddOrder : DbMigration
    {
        public override void Up()
        {
            CreateTable(
                "dbo.Orders",
                c => new
                {
                    OrderID = c.Int(nullable: false, identity: true),
                    ProductID = c.Int(nullable: false),
                    Quantity = c.Int(nullable: false),
                    CustomerName = c.String(nullable: false, maxLength: 128),
                })
                .PrimaryKey(t => t.OrderID)
                .ForeignKey("dbo.Customers", t => t.CustomerName, cascadeDelete: true)
                .ForeignKey("dbo.Products", t => t.ProductID, cascadeDelete: true)
                .Index(t => t.ProductID)
                .Index(t => t.CustomerName);
        }

        public override void Down()
        {
            DropForeignKey("dbo.Orders", "ProductID", "dbo.Products");
            DropForeignKey("dbo.Orders", "CustomerName", "dbo.Customers");
            DropIndex("dbo.Orders", new[] { "CustomerName" });
            DropIndex("dbo.Orders", new[] { "ProductID" });
            DropTable("dbo.Orders");
        }
    }
}
```

```
namespace entity_framework_linq2entries.Migrations
{
    using System;
    using System.Data.Entity.Migrations;

    public partial class AddUnitprice : DbMigration
    {
        public override void Up()
        {
            AddColumn("dbo.Products", "Unitprice", c => c.Decimal(nullable: false,
                storeType: "money"));
        }

        public override void Down()
        {
            DropColumn("dbo.Products", "Unitprice");
        }
    }
}
```

```
namespace entity_framework_linq2entries.Migrations
{
    using System;
    using System.Data.Entity.Migrations;

    public partial class InitialCreate : DbMigration
    {
        public override void Up()
        {
            CreateTable(
                "dbo.Categories",
                c => new
                {
                    CategoryId = c.Int(nullable: false, identity: true),
                    Name = c.String(),
                    Description = c.String(),
                })
                .PrimaryKey(t => t.CategoryId);

            CreateTable(
                "dbo.Products",
                c => new
                {
                    productId = c.Int(nullable: false, identity: true),
                    Name = c.String(),
                    UnitsInStock = c.Int(nullable: false),
                    CategoryID = c.Int(nullable: false),
                    Unitprice = c.Decimal(nullable: false, precision: 18, scale: 2),
                })
                .PrimaryKey(t => t.productId)
                .ForeignKey("dbo.Categories", t => t.CategoryID, cascadeDelete: true)
                .Index(t => t.CategoryID);
        }

        public override void Down()
        {
            DropForeignKey("dbo.Products", "CategoryID", "dbo.Categories");
            DropIndex("dbo.Products", new[] { "CategoryID" });
            DropTable("dbo.Products");
            DropTable("dbo.Categories");
        }
    }
}
```

6 Kod CategoryForm.cs oraz CategoryForm.Designer.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Data.Entity;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace entity_framework_linq2entries
{
    public partial class CategoryForm : Form
    {
        ProdContext context = new ProdContext();
        int? categoryId;

        public CategoryForm()
        {
            InitializeComponent();
        }

        protected override void OnLoad(EventArgs e)
        {
            base.OnLoad(e);
            context = new ProdContext();
            context.Categories.Load();
            context.Products.Load();
            context.Customers.Load();
            context.Orders.Load();

            this.categoryBindingSource.DataSource =
                context.Categories.Local.ToBindingList();
            this.productBindingSource.DataSource =
                context.Products.Local.ToBindingList();

            this.orderBindingSource.DataSource = context.Orders.Local.ToBindingList();
        }

        private void saveItemsOnClick(object sender, EventArgs e)
        {
            context.SaveChanges();
            this.categoryDataGridView.Refresh();
        }

        private void cellContentOnClick(object sender, DataGridViewCellEventArgs e)
        {
            int rowSelected = e.RowIndex;
            Category category =
                (Category)categoryDataGridView.Rows[rowSelected].DataBoundItem;
        }
    }
}
```

```

        if (category != null)
        {
            this.categoryId = category.CategoryId;

            /* this.productBindingSource.DataSource = (from p in context.Products
                                                         where p.CategoryID ==
                                                            category.CategoryId
                                                         select p).ToList();

            */

            this.productBindingSource.DataSource =
                new BindingList<Product>(
                    context.Products.Where(p => p.CategoryID == category.CategoryId)
                        .ToList());
        }
    }

    private void onAddOrderClick(object sender, EventArgs e)
    {
        if (isInputValid())
        {
            Order order = new Order();
            order.CustomerName = customerNameTextBox.Text;
            order.Quantity = Convert.ToInt32(quantityTextBox.Text);

            context.Orders.Add(order);
            // context.SaveChanges();
        }
    }

    private bool isInputValid()
    {
        return customerNameTextBox.Text != null && isNumeric(quantityTextBox.Text);
    }

    private bool isNumeric(string s)
    {
        return !string.IsNullOrEmpty(s) && s.All(Char.IsDigit);
    }
}

```

```

namespace entity_framework_linq2entries
{
    partial class CategoryForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
        /// otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.components = new System.ComponentModel.Container();
            System.ComponentModel.ComponentResourceManager resources = new
                System.ComponentModel.ComponentResourceManager(typeof(CategoryForm));
            this.categoryBindingNavigator = new
                System.Windows.Forms.BindingNavigator(this.components);
            this.bindingNavigatorAddNewItem = new
                System.Windows.Forms.ToolStripButton();
            this.categoryBindingSource = new
                System.Windows.Forms.BindingSource(this.components);
            this.bindingNavigatorCountItem = new System.Windows.Forms.ToolStripLabel();
            this.bindingNavigatorDeleteItem = new
                System.Windows.Forms.ToolStripButton();
            this.bindingNavigatorMoveFirstItem = new
                System.Windows.Forms.ToolStripButton();
            this.bindingNavigatorMovePreviousItem = new
                System.Windows.Forms.ToolStripButton();
            this.bindingNavigatorSeparator = new
                System.Windows.Forms.ToolStripSeparator();
            this.bindingNavigatorPositionItem = new
                System.Windows.Forms.ToolStripTextBox();
            this.bindingNavigatorSeparator1 = new
                System.Windows.Forms.ToolStripSeparator();
            this.bindingNavigatorMoveNextItem = new
                System.Windows.Forms.ToolStripButton();
        }
    }
}

```

```

this.bindingNavigatorMoveLastItem = new
    System.Windows.Forms.ToolStripButton();
this.bindingNavigatorSeparator2 = new
    System.Windows.Forms.ToolStripSeparator();
this.saveItemsButton = new System.Windows.Forms.ToolStripButton();
this.addOrderButton = new System.Windows.Forms.ToolStripButton();
this.categoryDataGridView = new System.Windows.Forms.DataGridView();
this.dataGridViewTextBoxColumn1 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn2 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn3 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.productDataGridView = new System.Windows.Forms.DataGridView();
this.dataGridViewTextBoxColumn4 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn5 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn6 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn7 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn8 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn9 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.productBindingSource = new
    System.Windows.Forms.BindingSource(this.components);
this.orderDataGridView = new System.Windows.Forms.DataGridView();
this.dataGridViewTextBoxColumn10 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn11 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn12 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn13 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn14 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.dataGridViewTextBoxColumn15 = new
    System.Windows.Forms.DataGridViewTextBoxColumn();
this.orderBindingSource = new
    System.Windows.Forms.BindingSource(this.components);
this.colorDialog1 = new System.Windows.Forms.ColorDialog();
this.customerNameTextBox = new System.Windows.Forms.TextBox();
this.quantityTextBox = new System.Windows.Forms.TextBox();
((System.ComponentModel.ISupportInitialize)(this.categoryBindingNavigator)).BeginInit();
this.categoryBindingNavigator.SuspendLayout();
((System.ComponentModel.ISupportInitialize)(this.categoryBindingSource)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.categoryDataGridView)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.productDataGridView)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.productBindingSource)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.orderDataGridView)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.orderBindingSource)).BeginInit();
this.SuspendLayout();

```

```

//
// categoryBindingNavigator
//
this.categoryBindingNavigator.AddNewItem = this.bindingNavigatorAddNewItem;
this.categoryBindingNavigator.BindingSource = this.categoryBindingSource;
this.categoryBindingNavigator.CountItem = this.bindingNavigatorCountItem;
this.categoryBindingNavigator.DeleteItem = this.bindingNavigatorDeleteItem;
this.categoryBindingNavigator.Items.AddRange(new
    System.Windows.Forms.ToolStripItem[] {
this.bindingNavigatorMoveFirstItem,
this.bindingNavigatorMovePreviousItem,
this.bindingNavigatorSeparator,
this.bindingNavigatorPositionItem,
this.bindingNavigatorCountItem,
this.bindingNavigatorSeparator1,
this.bindingNavigatorMoveNextItem,
this.bindingNavigatorMoveLastItem,
this.bindingNavigatorSeparator2,
this.bindingNavigatorAddNewItem,
this.bindingNavigatorDeleteItem,
this.saveItemsButton,
this.addOrderButton});
this.categoryBindingNavigator.Location = new System.Drawing.Point(0, 0);
this.categoryBindingNavigator.MoveFirstItem =
    this.bindingNavigatorMoveFirstItem;
this.categoryBindingNavigator.MoveLastItem =
    this.bindingNavigatorMoveLastItem;
this.categoryBindingNavigator.MoveNextItem =
    this.bindingNavigatorMoveNextItem;
this.categoryBindingNavigator.MovePreviousItem =
    this.bindingNavigatorMovePreviousItem;
this.categoryBindingNavigator.Name = "categoryBindingNavigator";
this.categoryBindingNavigator.PositionItem =
    this.bindingNavigatorPositionItem;
this.categoryBindingNavigator.Size = new System.Drawing.Size(837, 25);
this.categoryBindingNavigator.TabIndex = 0;
this.categoryBindingNavigator.Text = "bindingNavigator1";
//
// bindingNavigatorAddNewItem
//
this.bindingNavigatorAddNewItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorAddNewItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorAddNewItem.Image")));
this.bindingNavigatorAddNewItem.Name = "bindingNavigatorAddNewItem";
this.bindingNavigatorAddNewItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorAddNewItem.Size = new System.Drawing.Size(23, 22);
this.bindingNavigatorAddNewItem.Text = "Add new";
//
// categoryBindingSource
//
this.categoryBindingSource.DataSource =
    typeof(entity_framework_linq2entries.Category);
//
// bindingNavigatorCountItem

```

```

//
this.bindingNavigatorCountItem.Name = "bindingNavigatorCountItem";
this.bindingNavigatorCountItem.Size = new System.Drawing.Size(35, 22);
this.bindingNavigatorCountItem.Text = "of {0}";
this.bindingNavigatorCountItem.ToolTipText = "Total number of items";
//
// bindingNavigatorDeleteItem
//
this.bindingNavigatorDeleteItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorDeleteItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorDeleteItem.Image")));
this.bindingNavigatorDeleteItem.Name = "bindingNavigatorDeleteItem";
this.bindingNavigatorDeleteItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorDeleteItem.Size = new System.Drawing.Size(23, 22);
this.bindingNavigatorDeleteItem.Text = "Delete";
//
// bindingNavigatorMoveFirstItem
//
this.bindingNavigatorMoveFirstItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorMoveFirstItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorMoveFirstItem.Image")));
this.bindingNavigatorMoveFirstItem.Name = "bindingNavigatorMoveFirstItem";
this.bindingNavigatorMoveFirstItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorMoveFirstItem.Size = new System.Drawing.Size(23, 22);
this.bindingNavigatorMoveFirstItem.Text = "Move first";
//
// bindingNavigatorMovePreviousItem
//
this.bindingNavigatorMovePreviousItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorMovePreviousItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorMovePreviousItem.Image")));
this.bindingNavigatorMovePreviousItem.Name =
    "bindingNavigatorMovePreviousItem";
this.bindingNavigatorMovePreviousItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorMovePreviousItem.Size = new System.Drawing.Size(23,
    22);
this.bindingNavigatorMovePreviousItem.Text = "Move previous";
//
// bindingNavigatorSeparator
//
this.bindingNavigatorSeparator.Name = "bindingNavigatorSeparator";
this.bindingNavigatorSeparator.Size = new System.Drawing.Size(6, 25);
//
// bindingNavigatorPositionItem
//
this.bindingNavigatorPositionItem.AccessibleName = "Position";
this.bindingNavigatorPositionItem.AutoSize = false;
this.bindingNavigatorPositionItem.Name = "bindingNavigatorPositionItem";
this.bindingNavigatorPositionItem.Size = new System.Drawing.Size(50, 23);
this.bindingNavigatorPositionItem.Text = "0";
this.bindingNavigatorPositionItem.ToolTipText = "Current position";
//

```

```

// bindingNavigatorSeparator1
//
this.bindingNavigatorSeparator1.Name = "bindingNavigatorSeparator1";
this.bindingNavigatorSeparator1.Size = new System.Drawing.Size(6, 25);
//
// bindingNavigatorMoveNextItem
//
this.bindingNavigatorMoveNextItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorMoveNextItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorMoveNextItem.Image")));
this.bindingNavigatorMoveNextItem.Name = "bindingNavigatorMoveNextItem";
this.bindingNavigatorMoveNextItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorMoveNextItem.Size = new System.Drawing.Size(23, 22);
this.bindingNavigatorMoveNextItem.Text = "Move next";
//
// bindingNavigatorMoveLastItem
//
this.bindingNavigatorMoveLastItem.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.bindingNavigatorMoveLastItem.Image =
    ((System.Drawing.Image)(resources.GetObject("bindingNavigatorMoveLastItem.Image")));
this.bindingNavigatorMoveLastItem.Name = "bindingNavigatorMoveLastItem";
this.bindingNavigatorMoveLastItem.RightToLeftAutoMirrorImage = true;
this.bindingNavigatorMoveLastItem.Size = new System.Drawing.Size(23, 22);
this.bindingNavigatorMoveLastItem.Text = "Move last";
//
// bindingNavigatorSeparator2
//
this.bindingNavigatorSeparator2.Name = "bindingNavigatorSeparator2";
this.bindingNavigatorSeparator2.Size = new System.Drawing.Size(6, 25);
//
// saveItemsButton
//
this.saveItemsButton.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.saveItemsButton.Image =
    ((System.Drawing.Image)(resources.GetObject("saveItemsButton.Image")));
this.saveItemsButton.Name = "saveItemsButton";
this.saveItemsButton.Size = new System.Drawing.Size(23, 22);
this.saveItemsButton.Text = "Save Data";
this.saveItemsButton.Click += new
    System.EventHandler(this.saveItemsOnClick);
//
// addOrderButton
//
this.addOrderButton.DisplayStyle =
    System.Windows.Forms.ToolStripItemDisplayStyle.Image;
this.addOrderButton.Image =
    ((System.Drawing.Image)(resources.GetObject("addOrderButton.Image")));
this.addOrderButton.ImageTransparentColor = System.Drawing.Color.Magenta;
this.addOrderButton.Name = "addOrderButton";
this.addOrderButton.Size = new System.Drawing.Size(23, 22);
this.addOrderButton.Text = "addOrderButton";
this.addOrderButton.Click += new System.EventHandler(this.onAddOrderClick);

```



```

//
// categoryDataGridView
//
this.categoryDataGridView.AutoGenerateColumns = false;
this.categoryDataGridView.ColumnHeadersHeightSizeMode =
    System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
this.categoryDataGridView.Columns.AddRange(new
    System.Windows.Forms.DataGridViewColumn[] {
this.dataGridViewTextBoxColumn1,
this.dataGridViewTextBoxColumn2,
this.dataGridViewTextBoxColumn3});
this.categoryDataGridView.DataSource = this.categoryBindingSource;
this.categoryDataGridView.Location = new System.Drawing.Point(25, 28);
this.categoryDataGridView.Name = "categoryDataGridView";
this.categoryDataGridView.Size = new System.Drawing.Size(326, 220);
this.categoryDataGridView.TabIndex = 1;
this.categoryDataGridView.CellContentClick += new
    System.Windows.Forms.DataGridViewCellEventHandler(this.cellContentOnClick);
this.categoryDataGridView.RowEnter += new
    System.Windows.Forms.DataGridViewCellEventHandler(this.cellContentOnClick);
//
// dataGridViewTextBoxColumn1
//
this.dataGridViewTextBoxColumn1.DataPropertyName = "CategoryId";
this.dataGridViewTextBoxColumn1.HeaderText = "CategoryId";
this.dataGridViewTextBoxColumn1.Name = "dataGridViewTextBoxColumn1";
this.dataGridViewTextBoxColumn1.ReadOnly = true;
//
// dataGridViewTextBoxColumn2
//
this.dataGridViewTextBoxColumn2.DataPropertyName = "Name";
this.dataGridViewTextBoxColumn2.HeaderText = "Name";
this.dataGridViewTextBoxColumn2.Name = "dataGridViewTextBoxColumn2";
//
// dataGridViewTextBoxColumn3
//
this.dataGridViewTextBoxColumn3.DataPropertyName = "Description";
this.dataGridViewTextBoxColumn3.HeaderText = "Description";
this.dataGridViewTextBoxColumn3.Name = "dataGridViewTextBoxColumn3";
//
// productDataGridView
//
this.productDataGridView.AutoGenerateColumns = false;
this.productDataGridView.ColumnHeadersHeightSizeMode =
    System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
this.productDataGridView.Columns.AddRange(new
    System.Windows.Forms.DataGridViewColumn[] {
this.dataGridViewTextBoxColumn4,
this.dataGridViewTextBoxColumn5,
this.dataGridViewTextBoxColumn6,
this.dataGridViewTextBoxColumn7,
this.dataGridViewTextBoxColumn8,
this.dataGridViewTextBoxColumn9});
this.productDataGridView.DataSource = this.productBindingSource;
this.productDataGridView.Location = new System.Drawing.Point(25, 254);

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```

this.productDataGridView.Name = "productDataGridView";
this.productDataGridView.Size = new System.Drawing.Size(630, 220);
this.productDataGridView.TabIndex = 2;
//
// dataGridViewTextBoxColumn4
//
this.dataGridViewTextBoxColumn4.DataPropertyName = "productId";
this.dataGridViewTextBoxColumn4.HeaderText = "productId";
this.dataGridViewTextBoxColumn4.Name = "dataGridViewTextBoxColumn4";
this.dataGridViewTextBoxColumn4.ReadOnly = true;
//
// dataGridViewTextBoxColumn5
//
this.dataGridViewTextBoxColumn5.DataPropertyName = "Name";
this.dataGridViewTextBoxColumn5.HeaderText = "Name";
this.dataGridViewTextBoxColumn5.Name = "dataGridViewTextBoxColumn5";
//
// dataGridViewTextBoxColumn6
//
this.dataGridViewTextBoxColumn6.DataPropertyName = "UnitsInStock";
this.dataGridViewTextBoxColumn6.HeaderText = "UnitsInStock";
this.dataGridViewTextBoxColumn6.Name = "dataGridViewTextBoxColumn6";
//
// dataGridViewTextBoxColumn7
//
this.dataGridViewTextBoxColumn7.DataPropertyName = "CategoryID";
this.dataGridViewTextBoxColumn7.HeaderText = "CategoryID";
this.dataGridViewTextBoxColumn7.Name = "dataGridViewTextBoxColumn7";
//
// dataGridViewTextBoxColumn8
//
this.dataGridViewTextBoxColumn8.DataPropertyName = "Category";
this.dataGridViewTextBoxColumn8.HeaderText = "Category";
this.dataGridViewTextBoxColumn8.Name = "dataGridViewTextBoxColumn8";
//
// dataGridViewTextBoxColumn9
//
this.dataGridViewTextBoxColumn9.DataPropertyName = "Unitprice";
this.dataGridViewTextBoxColumn9.HeaderText = "Unitprice";
this.dataGridViewTextBoxColumn9.Name = "dataGridViewTextBoxColumn9";
//
// productBindingSource
//
this.productBindingSource.DataSource =
    typeof(entity_framework_linq2entries.Product);
//
// orderDataGridView
//
this.orderDataGridView.AutoGenerateColumns = false;
this.orderDataGridView.ColumnHeadersHeightSizeMode =
    System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
this.orderDataGridView.Columns.AddRange(new
    System.Windows.Forms.DataGridViewColumn[] {
this.dataGridViewTextBoxColumn10,
this.dataGridViewTextBoxColumn11,

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```

this.dataGridViewTextBoxColumn12,
this.dataGridViewTextBoxColumn13,
this.dataGridViewTextBoxColumn14,
this.dataGridViewTextBoxColumn15});
this.orderDataGridView.DataSource = this.orderBindingSource;
this.orderDataGridView.Location = new System.Drawing.Point(25, 480);
this.orderDataGridView.Name = "orderDataGridView";
this.orderDataGridView.Size = new System.Drawing.Size(630, 220);
this.orderDataGridView.TabIndex = 3;
//
// dataGridViewTextBoxColumn10
//
this.dataGridViewTextBoxColumn10.DataPropertyName = "OrderID";
this.dataGridViewTextBoxColumn10.HeaderText = "OrderID";
this.dataGridViewTextBoxColumn10.Name = "dataGridViewTextBoxColumn10";
//
// dataGridViewTextBoxColumn11
//
this.dataGridViewTextBoxColumn11.DataPropertyName = "ProductID";
this.dataGridViewTextBoxColumn11.HeaderText = "ProductID";
this.dataGridViewTextBoxColumn11.Name = "dataGridViewTextBoxColumn11";
//
// dataGridViewTextBoxColumn12
//
this.dataGridViewTextBoxColumn12.DataPropertyName = "Product";
this.dataGridViewTextBoxColumn12.HeaderText = "Product";
this.dataGridViewTextBoxColumn12.Name = "dataGridViewTextBoxColumn12";
//
// dataGridViewTextBoxColumn13
//
this.dataGridViewTextBoxColumn13.DataPropertyName = "Quantity";
this.dataGridViewTextBoxColumn13.HeaderText = "Quantity";
this.dataGridViewTextBoxColumn13.Name = "dataGridViewTextBoxColumn13";
//
// dataGridViewTextBoxColumn14
//
this.dataGridViewTextBoxColumn14.DataPropertyName = "CustomerName";
this.dataGridViewTextBoxColumn14.HeaderText = "CustomerName";
this.dataGridViewTextBoxColumn14.Name = "dataGridViewTextBoxColumn14";
//
// dataGridViewTextBoxColumn15
//
this.dataGridViewTextBoxColumn15.DataPropertyName = "Customer";
this.dataGridViewTextBoxColumn15.HeaderText = "Customer";
this.dataGridViewTextBoxColumn15.Name = "dataGridViewTextBoxColumn15";
//
// orderBindingSource
//
this.orderBindingSource.DataSource =
    typeof(entity_framework_linq2entries.Order);
//
// customerNameTextBox
//
this.customerNameTextBox.Location = new System.Drawing.Point(442, 48);
this.customerNameTextBox.Name = "customerNameTextBox";

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        this.customerNameTextBox.Size = new System.Drawing.Size(100, 20);
        this.customerNameTextBox.TabIndex = 4;
        this.customerNameTextBox.Text = "CustomerName";
        //
        // quantityTextBox
        //
        this.quantityTextBox.Location = new System.Drawing.Point(442, 89);
        this.quantityTextBox.Name = "quantityTextBox";
        this.quantityTextBox.Size = new System.Drawing.Size(100, 20);
        this.quantityTextBox.TabIndex = 5;
        this.quantityTextBox.Text = "Quantity";
        //
        // CategoryForm
        //
        this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
        this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
        this.ClientSize = new System.Drawing.Size(837, 749);
        this.Controls.Add(this.quantityTextBox);
        this.Controls.Add(this.customerNameTextBox);
        this.Controls.Add(this.orderDataGridView);
        this.Controls.Add(this.productDataGridView);
        this.Controls.Add(this.categoryDataGridView);
        this.Controls.Add(this.categoryBindingNavigator);
        this.Name = "CategoryForm";
        this.Text = "CategoryForm";
        ((System.ComponentModel.ISupportInitialize)(this.categoryBindingNavigator)).EndInit();
        this.categoryBindingNavigator.ResumeLayout(false);
        this.categoryBindingNavigator.PerformLayout();
        ((System.ComponentModel.ISupportInitialize)(this.categoryBindingSource)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.categoryDataGridView)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.productDataGridView)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.productBindingSource)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.orderDataGridView)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.orderBindingSource)).EndInit();
        this.ResumeLayout(false);
        this.PerformLayout();
    }

#endregion

private System.Windows.Forms.BindingSource categoryBindingSource;
private System.Windows.Forms.BindingNavigator categoryBindingNavigator;
private System.Windows.Forms.ToolStripButton bindingNavigatorAddNewItem;
private System.Windows.Forms.ToolStripLabel bindingNavigatorCountItem;
private System.Windows.Forms.ToolStripButton bindingNavigatorDeleteItem;
private System.Windows.Forms.ToolStripButton bindingNavigatorMoveFirstItem;
private System.Windows.Forms.ToolStripButton bindingNavigatorMovePreviousItem;
private System.Windows.Forms.ToolStripSeparator bindingNavigatorSeparator;
private System.Windows.Forms.ToolStripTextBox bindingNavigatorPositionItem;
private System.Windows.Forms.ToolStripSeparator bindingNavigatorSeparator1;
private System.Windows.Forms.ToolStripButton bindingNavigatorMoveNextItem;
private System.Windows.Forms.ToolStripButton bindingNavigatorMoveLastItem;
private System.Windows.Forms.ToolStripSeparator bindingNavigatorSeparator2;
private System.Windows.Forms.ToolStripButton saveItemsButton;

```

```

private System.Windows.Forms.DataGridView categoryDataGridView;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn1;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn2;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn3;
private System.Windows.Forms.BindingSource productBindingSource;
private System.Windows.Forms.DataGridView productDataGridView;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn4;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn5;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn6;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn7;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn8;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn9;
private System.Windows.Forms.BindingSource orderBindingSource;
private System.Windows.Forms.DataGridView orderDataGridView;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn10;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn11;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn12;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn13;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn14;
private System.Windows.Forms.DataGridViewTextBoxColumn
    dataGridViewTextBoxColumn15;
private System.Windows.Forms.ToolStripButton addOrderButton;
private System.Windows.Forms.ColorDialog colorDialog1;
private System.Windows.Forms.TextBox customerNameTextBox;
private System.Windows.Forms.TextBox quantityTextBox;
    }
}

```
