**РУСЕНСКИ УНИВЕРСИТЕТ „АНГЕЛ КЪНЧЕВ“**

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ПО

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# Задание

Да се разработи програмна система, симулираща работата на модула за **оптимизация на достъпа до дискова памет – стратегия N-Step-Scan** при следните изходни данни:

* ***Основни необходими структури:***
  + Buffer[1..M] буфер със заявките към диска със структура:
    - Cylinder номер на цилиндър
* ***Основни обработки:***
  + Request(Cyl) генериране на нова заявка към цилиндър Cyl;
  + SelectReq избор и обслужване на заявка по N-Step-Scan;
  + Show показване на състоянието на основните структури

Разработеният проект да има подходящ потребителски интерфейс за обръщение към основните обработки. Обяснителната записка да съдържа заданието, описание на използваните структури данни и алгоритми и програмен листинг.

# Описание на използваните структури данни и алгоритми

При стратегията Scan главата започва да се движи от единия край на диска към другия, като обслужва всички заявки, които среща по пътя. Главата не сменя направлението на движение, докато не достигне крайния цилиндър.

N-Step-Scan представляват модификация на алгоритъма Scan. Главите се движат в двете посоки по същия начин, но обслужва максимум N на брой заявки в едната посока. Заявките в тази подопашка са сортирани. При голямо N производителността е като тази на Scan, а при N=1 - като на First-Come-First-Serve (FCFS).

* Global.NumberOfCylinders – броят на цилиндрите
* Global.HeaderPosition – позиция на главата (*започва от позиция 0)*
* Global.NumberOfSteps – брой стъпки N
* Global.Direction – посоката на движение на главата
  + При стойност true – наляво, иначе – надясно.
* Queue<Request> requests; - главна опашка със заявки
* List<Request> currentSub; - „подопашка“ със размер N
* private void button1\_Click(object sender, EventArgs e) – за добавяне на нова заявка в опашката requests;
* private void Repaint() – за обновяване на данните в таблиците
* private void button2\_Click(object sender, EventArgs e) – за избор и обслужване на заявка по N-Step-Scan

# Код на програмата (листинг)



## Program.cs

using System;

using System.Windows.Forms;

namespace OS\_NSCAN

{

static class Program

{

[STAThread]

static void Main()

{

Application.EnableVisualStyles();

Application.SetCompatibleTextRenderingDefault(false);

Application.Run(new frmInput());

}

}

}

## frmMain.cs

using System;

using System.Collections.Generic;

using System.Drawing;

using System.Windows.Forms;

namespace OS\_NSCAN

{

public partial class frmMain : Form

{

Queue<Request> requests;

List<Request> currentSub;

public frmMain()

{

InitializeComponent();

requests = new Queue<Request>();

currentSub = new List<Request>();

}

private void button1\_Click(object sender, EventArgs e)

{

requests.Enqueue(new Request(numericUpDown1.Value));

button2.Enabled = true;

Repaint();

}

private void Repaint()

{

BindingSource bs = new BindingSource();

bs.DataSource = requests;

dataGridView1.DataSource = bs;

BindingSource bs1 = new BindingSource();

bs1.DataSource = currentSub;

dataGridView2.DataSource = bs1;

}

private void button2\_Click(object sender, EventArgs e)

{

if (currentSub.Count == 0)

{

for (int i = 0; i < Global.NumberOfSteps && requests.Count > 0; i++)

{

currentSub.Add(requests.Dequeue());

}

currentSub.Sort((r1, r2) => r1.Cylinder.CompareTo(r2.Cylinder));

}

if (currentSub.Count > 0)

{

if (!Global.Direction)

{ // Right

if (currentSub[0].Cylinder >= Global.HeaderPosition)

{

Global.HeaderPosition = currentSub[0].Cylinder;

label4.Text = currentSub[0].Cylinder.ToString();

currentSub.RemoveAt(0);

}

else

{

Global.Direction = true;

labelDir.Text = "Наляво";

labelDir.ForeColor = Color.Green;

Global.HeaderPosition = currentSub[currentSub.Count - 1].Cylinder;

label4.Text = currentSub[currentSub.Count - 1].Cylinder.ToString();

currentSub.RemoveAt(currentSub.Count - 1);

}

}

else

{ // Left

if (currentSub[currentSub.Count - 1].Cylinder <= Global.HeaderPosition)

{

Global.HeaderPosition = currentSub[currentSub.Count - 1].Cylinder;

label4.Text = currentSub[currentSub.Count - 1].Cylinder.ToString();

currentSub.RemoveAt(currentSub.Count - 1);

}

else

{

Global.Direction = false;

labelDir.Text = "Надясно";

labelDir.ForeColor = Color.Red;

Global.HeaderPosition = currentSub[0].Cylinder;

label4.Text = currentSub[0].Cylinder.ToString();

currentSub.RemoveAt(0);

}

}

if (currentSub.Count == 0)

{

Global.Direction = !Global.Direction;

if (Global.Direction)

{

Global.HeaderPosition = numericUpDown1.Maximum;

labelDir.Text = "Наляво";

labelDir.ForeColor = Color.Green;

}

else

{

Global.HeaderPosition = numericUpDown1.Minimum;

labelDir.Text = "Надясно";

labelDir.ForeColor = Color.Red;

}

}

}

else if (requests.Count == 0 && currentSub.Count == 0)

{

button2.Enabled = false;

label4.Text = "~";

MessageBox.Show("Няма други заявки!");

}

Repaint();

}

private void frmMain\_FormClosing(object sender, FormClosingEventArgs e)

{

Application.Exit();

}

}

}

## frmMain.Designer.cs

namespace OS\_NSCAN

{

partial class frmMain

{

/// <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()

{

System.Windows.Forms.DataGridViewCellStyle dataGridViewCellStyle1 = new System.Windows.Forms.DataGridViewCellStyle();

this.splitContainer1 = new System.Windows.Forms.SplitContainer();

this.dataGridView1 = new System.Windows.Forms.DataGridView();

this.tableLayoutPanel1 = new System.Windows.Forms.TableLayoutPanel();

this.tableLayoutPanel2 = new System.Windows.Forms.TableLayoutPanel();

this.label1 = new System.Windows.Forms.Label();

this.button1 = new System.Windows.Forms.Button();

this.numericUpDown1 = new System.Windows.Forms.NumericUpDown();

this.label2 = new System.Windows.Forms.Label();

this.labelDir = new System.Windows.Forms.Label();

this.tableLayoutPanel3 = new System.Windows.Forms.TableLayoutPanel();

this.button2 = new System.Windows.Forms.Button();

this.dataGridView2 = new System.Windows.Forms.DataGridView();

this.tableLayoutPanel4 = new System.Windows.Forms.TableLayoutPanel();

this.label4 = new System.Windows.Forms.Label();

this.label3 = new System.Windows.Forms.Label();

((System.ComponentModel.ISupportInitialize)(this.splitContainer1)).BeginInit();

this.splitContainer1.Panel1.SuspendLayout();

this.splitContainer1.Panel2.SuspendLayout();

this.splitContainer1.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();

this.tableLayoutPanel1.SuspendLayout();

this.tableLayoutPanel2.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.numericUpDown1)).BeginInit();

this.tableLayoutPanel3.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.dataGridView2)).BeginInit();

this.tableLayoutPanel4.SuspendLayout();

this.SuspendLayout();

//

// splitContainer1

//

this.splitContainer1.Dock = System.Windows.Forms.DockStyle.Fill;

this.splitContainer1.Location = new System.Drawing.Point(0, 0);

this.splitContainer1.Name = "splitContainer1";

//

// splitContainer1.Panel1

//

this.splitContainer1.Panel1.Controls.Add(this.dataGridView1);

//

// splitContainer1.Panel2

//

this.splitContainer1.Panel2.Controls.Add(this.tableLayoutPanel1);

this.splitContainer1.Size = new System.Drawing.Size(766, 479);

this.splitContainer1.SplitterDistance = 445;

this.splitContainer1.TabIndex = 0;

//

// dataGridView1

//

this.dataGridView1.AllowUserToAddRows = false;

this.dataGridView1.AllowUserToDeleteRows = false;

this.dataGridView1.AutoSizeColumnsMode = System.Windows.Forms.DataGridViewAutoSizeColumnsMode.Fill;

this.dataGridView1.ColumnHeadersHeightSizeMode = System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;

this.dataGridView1.Dock = System.Windows.Forms.DockStyle.Fill;

this.dataGridView1.Location = new System.Drawing.Point(0, 0);

this.dataGridView1.Name = "dataGridView1";

this.dataGridView1.ReadOnly = true;

this.dataGridView1.RowHeadersWidthSizeMode = System.Windows.Forms.DataGridViewRowHeadersWidthSizeMode.AutoSizeToAllHeaders;

dataGridViewCellStyle1.SelectionBackColor = System.Drawing.SystemColors.ActiveCaption;

dataGridViewCellStyle1.SelectionForeColor = System.Drawing.Color.White;

this.dataGridView1.RowsDefaultCellStyle = dataGridViewCellStyle1;

this.dataGridView1.SelectionMode = System.Windows.Forms.DataGridViewSelectionMode.FullRowSelect;

this.dataGridView1.Size = new System.Drawing.Size(445, 479);

this.dataGridView1.TabIndex = 0;

//

// tableLayoutPanel1

//

this.tableLayoutPanel1.CellBorderStyle = System.Windows.Forms.TableLayoutPanelCellBorderStyle.InsetDouble;

this.tableLayoutPanel1.ColumnCount = 1;

this.tableLayoutPanel1.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 100F));

this.tableLayoutPanel1.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Absolute, 20F));

this.tableLayoutPanel1.Controls.Add(this.dataGridView2, 0, 2);

this.tableLayoutPanel1.Controls.Add(this.tableLayoutPanel2, 0, 0);

this.tableLayoutPanel1.Controls.Add(this.tableLayoutPanel3, 0, 1);

this.tableLayoutPanel1.Dock = System.Windows.Forms.DockStyle.Fill;

this.tableLayoutPanel1.Location = new System.Drawing.Point(0, 0);

this.tableLayoutPanel1.Name = "tableLayoutPanel1";

this.tableLayoutPanel1.RowCount = 3;

this.tableLayoutPanel1.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 22.26891F));

this.tableLayoutPanel1.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 39.91597F));

this.tableLayoutPanel1.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 37.60504F));

this.tableLayoutPanel1.Size = new System.Drawing.Size(317, 479);

this.tableLayoutPanel1.TabIndex = 0;

//

// tableLayoutPanel2

//

this.tableLayoutPanel2.ColumnCount = 2;

this.tableLayoutPanel2.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 50F));

this.tableLayoutPanel2.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 50F));

this.tableLayoutPanel2.Controls.Add(this.label1, 0, 0);

this.tableLayoutPanel2.Controls.Add(this.button1, 1, 1);

this.tableLayoutPanel2.Controls.Add(this.numericUpDown1, 1, 0);

this.tableLayoutPanel2.Controls.Add(this.label2, 0, 2);

this.tableLayoutPanel2.Controls.Add(this.labelDir, 1, 2);

this.tableLayoutPanel2.Dock = System.Windows.Forms.DockStyle.Fill;

this.tableLayoutPanel2.Location = new System.Drawing.Point(6, 6);

this.tableLayoutPanel2.Name = "tableLayoutPanel2";

this.tableLayoutPanel2.RowCount = 3;

this.tableLayoutPanel2.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 33.33333F));

this.tableLayoutPanel2.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 33.33333F));

this.tableLayoutPanel2.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 33.33333F));

this.tableLayoutPanel2.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Absolute, 20F));

this.tableLayoutPanel2.Size = new System.Drawing.Size(305, 98);

this.tableLayoutPanel2.TabIndex = 0;

//

// label1

//

this.label1.Anchor = System.Windows.Forms.AnchorStyles.Right;

this.label1.AutoSize = true;

this.label1.Location = new System.Drawing.Point(38, 9);

this.label1.Name = "label1";

this.label1.Size = new System.Drawing.Size(111, 13);

this.label1.TabIndex = 0;

this.label1.Text = "Номер на цилиндър:";

//

// button1

//

this.button1.Anchor = ((System.Windows.Forms.AnchorStyles)(((System.Windows.Forms.AnchorStyles.Top | System.Windows.Forms.AnchorStyles.Bottom)

| System.Windows.Forms.AnchorStyles.Left)));

this.button1.Location = new System.Drawing.Point(155, 35);

this.button1.Name = "button1";

this.button1.Size = new System.Drawing.Size(108, 26);

this.button1.TabIndex = 4;

this.button1.Text = "Пусни заявка";

this.button1.UseVisualStyleBackColor = true;

this.button1.Click += new System.EventHandler(this.button1\_Click);

//

// numericUpDown1

//

this.numericUpDown1.Anchor = ((System.Windows.Forms.AnchorStyles)((System.Windows.Forms.AnchorStyles.Left | System.Windows.Forms.AnchorStyles.Right)));

this.numericUpDown1.Location = new System.Drawing.Point(155, 6);

this.numericUpDown1.Name = "numericUpDown1";

this.numericUpDown1.Size = new System.Drawing.Size(147, 20);

this.numericUpDown1.TabIndex = 5;

//

// label2

//

this.label2.Anchor = System.Windows.Forms.AnchorStyles.Right;

this.label2.AutoSize = true;

this.label2.Location = new System.Drawing.Point(33, 74);

this.label2.Name = "label2";

this.label2.Size = new System.Drawing.Size(116, 13);

this.label2.TabIndex = 6;

this.label2.Text = "Посока на движение:";

//

// labelDir

//

this.labelDir.Anchor = System.Windows.Forms.AnchorStyles.Left;

this.labelDir.AutoSize = true;

this.labelDir.Font = new System.Drawing.Font("Microsoft Sans Serif", 9F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(204)));

this.labelDir.ForeColor = System.Drawing.Color.Red;

this.labelDir.Location = new System.Drawing.Point(155, 73);

this.labelDir.Name = "labelDir";

this.labelDir.Size = new System.Drawing.Size(64, 15);

this.labelDir.TabIndex = 7;

this.labelDir.Text = "Надясно";

//

// tableLayoutPanel3

//

this.tableLayoutPanel3.ColumnCount = 1;

this.tableLayoutPanel3.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 100F));

this.tableLayoutPanel3.Controls.Add(this.tableLayoutPanel4, 0, 1);

this.tableLayoutPanel3.Controls.Add(this.button2, 0, 0);

this.tableLayoutPanel3.Dock = System.Windows.Forms.DockStyle.Fill;

this.tableLayoutPanel3.Location = new System.Drawing.Point(6, 113);

this.tableLayoutPanel3.Name = "tableLayoutPanel3";

this.tableLayoutPanel3.RowCount = 2;

this.tableLayoutPanel3.RowStyles.Add(new System.Windows.Forms.RowStyle());

this.tableLayoutPanel3.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 100F));

this.tableLayoutPanel3.Size = new System.Drawing.Size(305, 180);

this.tableLayoutPanel3.TabIndex = 1;

//

// button2

//

this.button2.Anchor = ((System.Windows.Forms.AnchorStyles)((System.Windows.Forms.AnchorStyles.Left | System.Windows.Forms.AnchorStyles.Right)));

this.button2.Enabled = false;

this.button2.Location = new System.Drawing.Point(3, 3);

this.button2.Name = "button2";

this.button2.Size = new System.Drawing.Size(299, 35);

this.button2.TabIndex = 0;

this.button2.Text = "Избор на заявка по N-Step-Scan";

this.button2.UseVisualStyleBackColor = true;

this.button2.Click += new System.EventHandler(this.button2\_Click);

//

// dataGridView2

//

this.dataGridView2.AllowUserToAddRows = false;

this.dataGridView2.AllowUserToDeleteRows = false;

this.dataGridView2.AutoSizeColumnsMode = System.Windows.Forms.DataGridViewAutoSizeColumnsMode.Fill;

this.dataGridView2.ColumnHeadersHeightSizeMode = System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;

this.dataGridView2.Dock = System.Windows.Forms.DockStyle.Fill;

this.dataGridView2.Location = new System.Drawing.Point(6, 302);

this.dataGridView2.Name = "dataGridView2";

this.dataGridView2.ReadOnly = true;

this.dataGridView2.RowHeadersWidthSizeMode = System.Windows.Forms.DataGridViewRowHeadersWidthSizeMode.AutoSizeToAllHeaders;

this.dataGridView2.SelectionMode = System.Windows.Forms.DataGridViewSelectionMode.FullRowSelect;

this.dataGridView2.Size = new System.Drawing.Size(305, 171);

this.dataGridView2.TabIndex = 2;

//

// tableLayoutPanel4

//

this.tableLayoutPanel4.ColumnCount = 1;

this.tableLayoutPanel4.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 100F));

this.tableLayoutPanel4.ColumnStyles.Add(new System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Absolute, 20F));

this.tableLayoutPanel4.Controls.Add(this.label4, 0, 1);

this.tableLayoutPanel4.Controls.Add(this.label3, 0, 0);

this.tableLayoutPanel4.Dock = System.Windows.Forms.DockStyle.Fill;

this.tableLayoutPanel4.Location = new System.Drawing.Point(3, 44);

this.tableLayoutPanel4.Name = "tableLayoutPanel4";

this.tableLayoutPanel4.RowCount = 2;

this.tableLayoutPanel4.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 50F));

this.tableLayoutPanel4.RowStyles.Add(new System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 50F));

this.tableLayoutPanel4.Size = new System.Drawing.Size(299, 133);

this.tableLayoutPanel4.TabIndex = 9;

//

// label4

//

this.label4.Anchor = ((System.Windows.Forms.AnchorStyles)(((System.Windows.Forms.AnchorStyles.Top | System.Windows.Forms.AnchorStyles.Left)

| System.Windows.Forms.AnchorStyles.Right)));

this.label4.AutoSize = true;

this.label4.Font = new System.Drawing.Font("Microsoft Sans Serif", 14F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(204)));

this.label4.ForeColor = System.Drawing.Color.FromArgb(((int)(((byte)(192)))), ((int)(((byte)(0)))), ((int)(((byte)(0)))));

this.label4.Location = new System.Drawing.Point(3, 66);

this.label4.Name = "label4";

this.label4.Size = new System.Drawing.Size(293, 24);

this.label4.TabIndex = 1;

this.label4.Text = "~";

this.label4.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;

//

// label3

//

this.label3.Anchor = ((System.Windows.Forms.AnchorStyles)(((System.Windows.Forms.AnchorStyles.Bottom | System.Windows.Forms.AnchorStyles.Left)

| System.Windows.Forms.AnchorStyles.Right)));

this.label3.AutoSize = true;

this.label3.Location = new System.Drawing.Point(3, 53);

this.label3.Name = "label3";

this.label3.Size = new System.Drawing.Size(293, 13);

this.label3.TabIndex = 0;

this.label3.Text = "Обслужва се заявката на цилиндър";

this.label3.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;

//

// frmMain

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(766, 479);

this.Controls.Add(this.splitContainer1);

this.Name = "frmMain";

this.Text = "Оптимизация на достъпа до дискова памет - стратегия N-Step-Scan";

this.FormClosing += new System.Windows.Forms.FormClosingEventHandler(this.frmMain\_FormClosing);

this.splitContainer1.Panel1.ResumeLayout(false);

this.splitContainer1.Panel2.ResumeLayout(false);

((System.ComponentModel.ISupportInitialize)(this.splitContainer1)).EndInit();

this.splitContainer1.ResumeLayout(false);

((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();

this.tableLayoutPanel1.ResumeLayout(false);

this.tableLayoutPanel2.ResumeLayout(false);

this.tableLayoutPanel2.PerformLayout();

((System.ComponentModel.ISupportInitialize)(this.numericUpDown1)).EndInit();

this.tableLayoutPanel3.ResumeLayout(false);

((System.ComponentModel.ISupportInitialize)(this.dataGridView2)).EndInit();

this.tableLayoutPanel4.ResumeLayout(false);

this.tableLayoutPanel4.PerformLayout();

this.ResumeLayout(false);

}

#endregion

private System.Windows.Forms.SplitContainer splitContainer1;

private System.Windows.Forms.DataGridView dataGridView1;

private System.Windows.Forms.TableLayoutPanel tableLayoutPanel1;

private System.Windows.Forms.TableLayoutPanel tableLayoutPanel2;

private System.Windows.Forms.TableLayoutPanel tableLayoutPanel3;

private System.Windows.Forms.Label label1;

private System.Windows.Forms.Button button1;

private System.Windows.Forms.Button button2;

public System.Windows.Forms.NumericUpDown numericUpDown1;

private System.Windows.Forms.Label label2;

public System.Windows.Forms.Label labelDir;

private System.Windows.Forms.DataGridView dataGridView2;

private System.Windows.Forms.TableLayoutPanel tableLayoutPanel4;

private System.Windows.Forms.Label label4;

private System.Windows.Forms.Label label3;

}

}

## frmInput.cs

using System;

using System.Windows.Forms;

namespace OS\_NSCAN

{

public partial class frmInput : Form

{

public frmInput()

{

InitializeComponent();

}

private void button1\_Click(object sender, EventArgs e)

{

Global.NumberOfCylinders = numericUpDown1.Value;

Global.NumberOfSteps = numericUpDown3.Value;

frmMain frm = new frmMain();

frm.numericUpDown1.Maximum = Global.NumberOfCylinders - 1;

this.Hide();

frm.Show();

}

}

}

## frmInput.Designer.cs

namespace OS\_NSCAN

{

partial class frmInput

{

/// <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.numericUpDown1 = new System.Windows.Forms.NumericUpDown();

this.label1 = new System.Windows.Forms.Label();

this.button1 = new System.Windows.Forms.Button();

this.label3 = new System.Windows.Forms.Label();

this.numericUpDown3 = new System.Windows.Forms.NumericUpDown();

((System.ComponentModel.ISupportInitialize)(this.numericUpDown1)).BeginInit();

((System.ComponentModel.ISupportInitialize)(this.numericUpDown3)).BeginInit();

this.SuspendLayout();

//

// numericUpDown1

//

this.numericUpDown1.Location = new System.Drawing.Point(220, 12);

this.numericUpDown1.Maximum = new decimal(new int[] {

1000000,

0,

0,

0});

this.numericUpDown1.Minimum = new decimal(new int[] {

1,

0,

0,

0});

this.numericUpDown1.Name = "numericUpDown1";

this.numericUpDown1.Size = new System.Drawing.Size(120, 20);

this.numericUpDown1.TabIndex = 0;

this.numericUpDown1.Value = new decimal(new int[] {

100,

0,

0,

0});

//

// label1

//

this.label1.AutoSize = true;

this.label1.Location = new System.Drawing.Point(97, 19);

this.label1.Name = "label1";

this.label1.Size = new System.Drawing.Size(86, 13);

this.label1.TabIndex = 2;

this.label1.Text = "Брой цилиндри:";

//

// button1

//

this.button1.Location = new System.Drawing.Point(168, 88);

this.button1.Name = "button1";

this.button1.Size = new System.Drawing.Size(75, 23);

this.button1.TabIndex = 4;

this.button1.Text = "ОК";

this.button1.UseVisualStyleBackColor = true;

this.button1.Click += new System.EventHandler(this.button1\_Click);

//

// label3

//

this.label3.AutoSize = true;

this.label3.Location = new System.Drawing.Point(165, 49);

this.label3.Name = "label3";

this.label3.Size = new System.Drawing.Size(18, 13);

this.label3.TabIndex = 6;

this.label3.Text = "N:";

//

// numericUpDown3

//

this.numericUpDown3.Location = new System.Drawing.Point(220, 47);

this.numericUpDown3.Maximum = new decimal(new int[] {

999999,

0,

0,

0});

this.numericUpDown3.Minimum = new decimal(new int[] {

1,

0,

0,

0});

this.numericUpDown3.Name = "numericUpDown3";

this.numericUpDown3.Size = new System.Drawing.Size(120, 20);

this.numericUpDown3.TabIndex = 5;

this.numericUpDown3.Value = new decimal(new int[] {

1,

0,

0,

0});

//

// frmInput

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(424, 132);

this.Controls.Add(this.label3);

this.Controls.Add(this.numericUpDown3);

this.Controls.Add(this.button1);

this.Controls.Add(this.label1);

this.Controls.Add(this.numericUpDown1);

this.MaximizeBox = false;

this.MaximumSize = new System.Drawing.Size(440, 170);

this.MinimizeBox = false;

this.MinimumSize = new System.Drawing.Size(440, 170);

this.Name = "frmInput";

this.ShowInTaskbar = false;

this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;

this.Text = "Оптимизация на достъпа до дискова памет - стратегия N-Step-Scan";

((System.ComponentModel.ISupportInitialize)(this.numericUpDown1)).EndInit();

((System.ComponentModel.ISupportInitialize)(this.numericUpDown3)).EndInit();

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.NumericUpDown numericUpDown1;

private System.Windows.Forms.Label label1;

private System.Windows.Forms.Button button1;

private System.Windows.Forms.Label label3;

private System.Windows.Forms.NumericUpDown numericUpDown3;

}

}

## Global.cs

namespace OS\_NSCAN

{

public class Global

{

private static decimal numberOfCylinders;

private static decimal headerPosition = 0;

private static decimal numberOfSteps;

private static bool direction;

public static decimal NumberOfCylinders

{

get

{

return numberOfCylinders;

}

set

{

numberOfCylinders = value;

}

}

public static decimal HeaderPosition

{

get

{

return headerPosition;

}

set

{

if (value >= numberOfCylinders)

{

headerPosition = numberOfCylinders - 1;

}

else

{

headerPosition = value;

}

}

}

public static decimal NumberOfSteps

{

get

{

return numberOfSteps;

}

set

{

numberOfSteps = value;

}

}

public static bool Direction

{

get

{

return direction;

}

set

{

direction = value;

}

}

}

}

## Request.cs

namespace OS\_NSCAN

{

class Request

{

private decimal cylinder;

public decimal Cylinder

{

get

{

return cylinder;

}

set

{

cylinder = value;

}

}

public Request(decimal cylinder)

{

this.Cylinder = cylinder;

}

}

}

# Демо

















