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unit Unit1;

interface

uses
  Windows, Messages, SysUtils, Variants, Classes, Graphics, Controls, Forms,
  Dialogs, ExtCtrls, Grids, StdCtrls;

type
  TfrmMain = class(TForm)
    imgJeu: TImage;
    sg: TStringGrid;
    btnSwap: TButton;
    lb: TListBox;
    btnChange: TButton;
    btnStat: TButton;
    lblR: TLabel;
    lblG: TLabel;
    lblB: TLabel;
    lblTotal: TLabel;
    procedure FormCreate(Sender: TObject);
    procedure btnSwapClick(Sender: TObject);
    procedure btnChangeClick(Sender: TObject);
    procedure btnStatClick(Sender: TObject);
  private
    { Private declarations }
  public
    { Public declarations }
  end;

var
  frmMain: TfrmMain;

implementation

{$R *.dfm}

function couleurHasard : TColor;
var couleur : integer;
begin
  couleur := random(3);
  if couleur = 0
    then result := clRed
    else if couleur = 1 then result := clGreen
    else result := clBlue
end;

function couleur2Txt(c : TColor): string;
begin
  if c = clRed
    then result := 'R'
    else if c = clGreen then result := 'G'
    else result := 'B'
end;

function txt2couleur(c : string): TColor;
begin
  if c = 'R'
    then result := clRed
    else if c = 'G' then result := clGreen
    else result := clBlue
end;

procedure TfrmMain.FormCreate(Sender: TObject);
var i,j,couleur,lig,col, SIZE : integer;
begin
  randomize;
  lb.Items.Append('4'); lb.Items.Append('5'); lb.Items.Append('10');
  lb.Items.Append('20'); lb.Items.Append('25'); lb.Items.Append('50');
  lb.Items.Append('100');
  lb.ItemIndex := 5;
  SIZE := strtoint(lb.Items[lb.Itemindex]);
  lig := sg.RowCount-1;
  col := sg.ColCount-1;
  for j := imgJeu.height div SIZE downto 1 do begin
    for i := 1 to imgJeu.width div SIZE do begin
      couleur := couleurHasard;
      imgJeu.Canvas.brush.color := couleur;
      imgJeu.Canvas.rectangle(SIZE*(i-1),imgJeu.height-SIZE*j,
        SIZE*i,imgJeu.height-(j-1)*SIZE);
    end;
  end;
end;

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    sg.Cells[col,lig] := couleur2txt(couleur);
    col := col+1
end;
sg.RowCount:= sg.RowCount+1;
lig := lig+1;
sg.ColCount:= col;
col := 0;
end;
sg.RowCount:= sg.RowCount-1;
lblR.Caption := 'RED: '; lblG.Caption := 'GREEN: '; lblB.Caption := 'BLUE: ';
lblTotal.Caption := 'TOTAL: ';
end;

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procedure TfrmMain.btnSwapClick(Sender: TObject);
var i,j,SIZE : integer;
begin
    SIZE := strtoint(lbl.Items[lbl.Itemindex]);
    for i := 0 to sg.ColCount-1 do
        for j := 0 to sg.RowCount-1 do
            if sg.cells[i,j] = 'R' then sg.cells[i,j] := 'B'
            else if sg.cells[i,j] = 'B' then sg.cells[i,j] := 'G'
            else sg.cells[i,j] := 'R';
        for j := 1 to imgJeu.height div SIZE do begin
            for i := 1 to imgJeu.width div SIZE do begin
                imgJeu.Canvas.brush.color := txt2couleur(sg.Cells[i-1,j-1]);
                imgJeu.Canvas.rectangle(SIZE*(i-1),SIZE*j,SIZE*i,(j-1)*SIZE);
            end;
        end;
        lblR.Caption := 'RED: '; lblG.Caption := 'GREEN: '; lblB.Caption := 'BLUE: ';
        lblTotal.Caption := 'TOTAL: ';
    end;
end;

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procedure TfrmMain.btnChangeClick(Sender: TObject);
var i,j,SIZE, lig, col, couleur : integer;
begin
    SIZE := strtoint(lbl.Items[lbl.Itemindex]);
    sg.RowCount:= 1;
    sg.ColCount:= 1;
    lig := sg.RowCount-1;
    col := sg.ColCount-1;
    for j := imgJeu.height div SIZE downto 1 do begin
        for i := 1 to imgJeu.width div SIZE do begin
            couleur := couleurHasard;
            imgJeu.Canvas.brush.color := couleur;
            imgJeu.Canvas.rectangle(SIZE*(i-1),imgJeu.height-SIZE*j,
                SIZE*i,imgJeu.height-(j-1)*SIZE);
            sg.Cells[col,lig] := couleur2txt(couleur);
            col := col+1
        end;
        sg.RowCount:= sg.RowCount+1;
        lig := lig+1;
        sg.ColCount:= col;
        col := 0;
    end;
    sg.RowCount:= sg.RowCount-1;
    lblR.Caption := 'RED: '; lblG.Caption := 'GREEN: '; lblB.Caption := 'BLUE: ';
    lblTotal.Caption := 'TOTAL: ';
end;

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procedure TfrmMain.btnStatClick(Sender: TObject);
var i,j, r,g,b : integer;
begin
    lblR.Caption := 'RED: '; lblG.Caption := 'GREEN: '; lblB.Caption := 'BLUE: ';
    lblTotal.Caption := 'TOTAL: ';
    r := 0; b := 0; g := 0;
    for i:= 0 to sg.ColCount-1 do
        for j := 0 to sg.RowCount-1 do
            if sg.cells[i,j] = 'R'
                then r := r+1
            else if sg.cells[i,j] = 'G'
                then g := g+1
            else b := b+1;
        lblR.Caption := lblR.Caption+inttostr(r);
        lblG.Caption := lblG.Caption+inttostr(g);
        lblB.Caption := lblB.Caption+inttostr(b);
        lblTotal.Caption := lblTotal.Caption+' '+inttostr(r+g+b);
    end;
end;

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end.

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