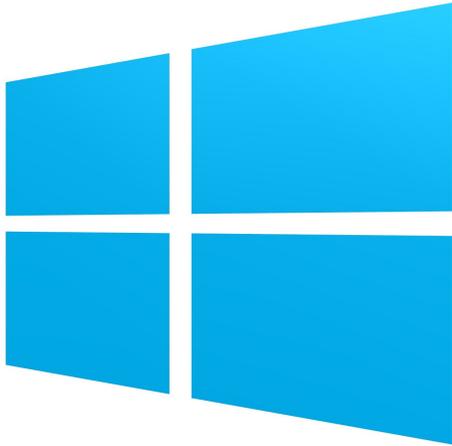


# Lazarus

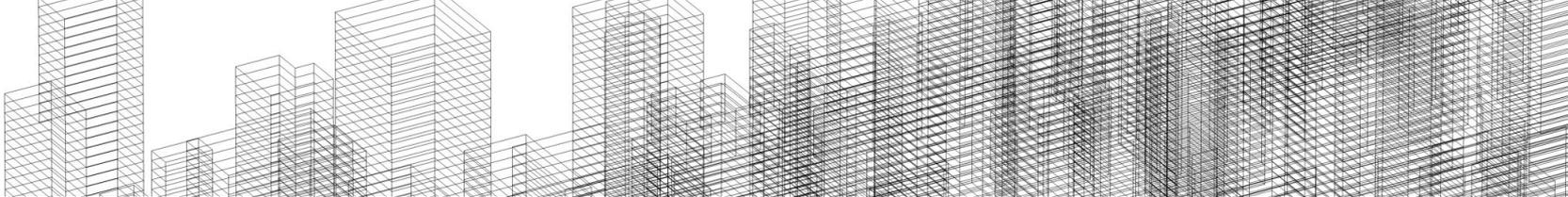


# Sistemas operacionais



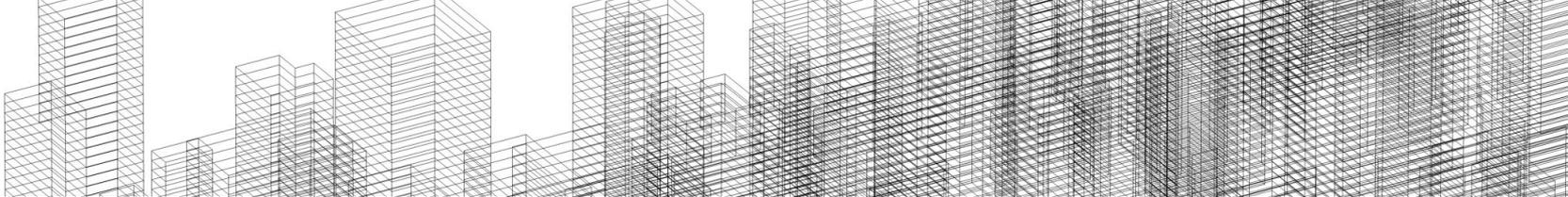
**Linux**





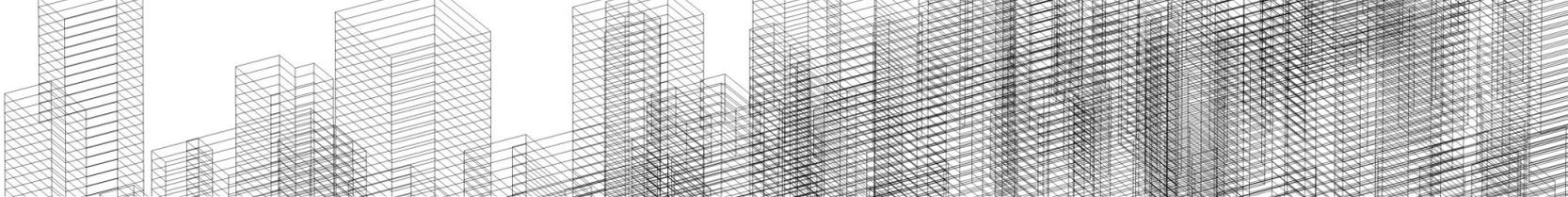
# Aplicação

- Aprender como manipular imagens no software Lazarus por meio de um evento.



# Procedimento

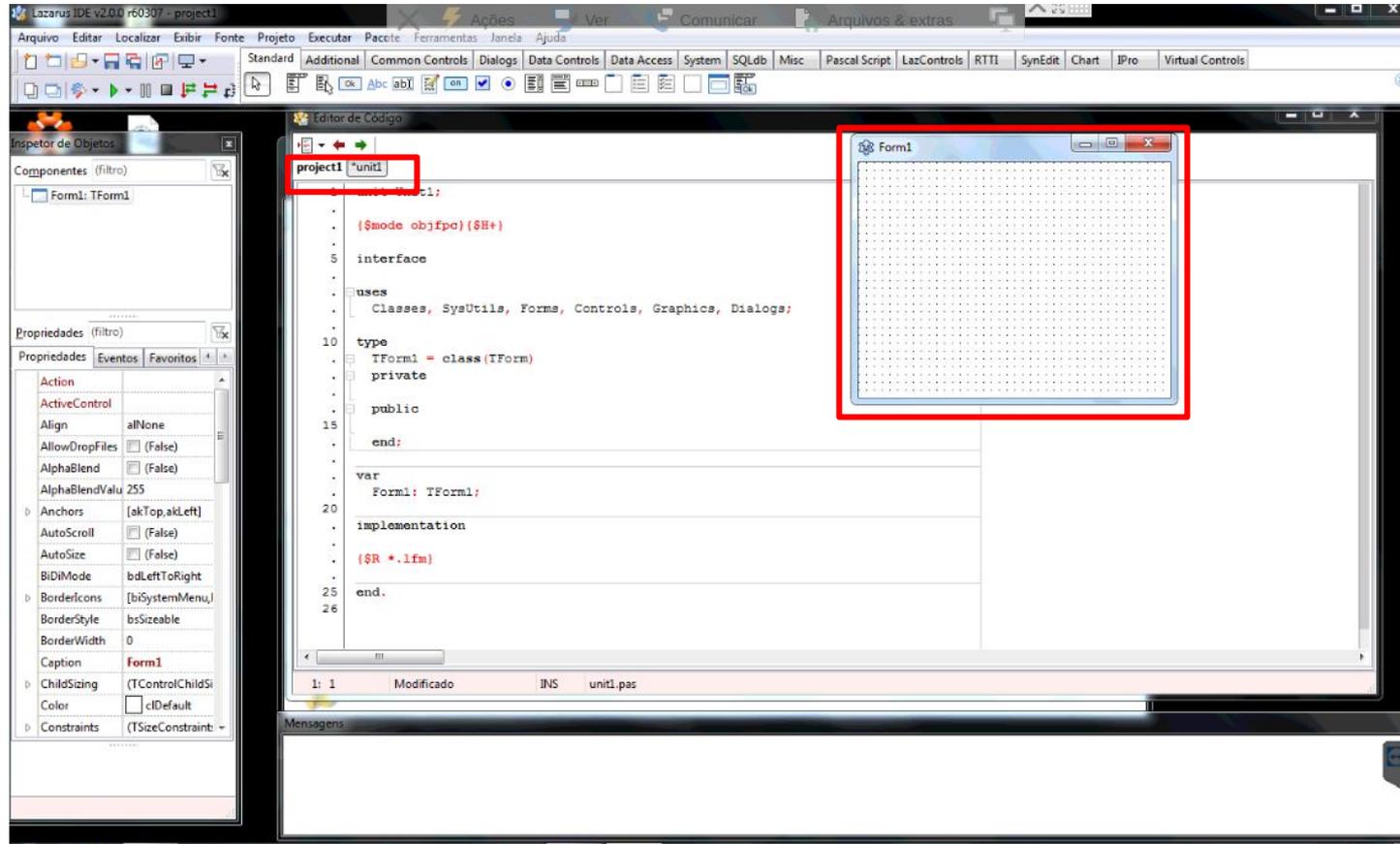
- Como manipular uma imagem;
- Manipular botão;
- Exemplo em linguagem Delphi.



# Implementação

- No Lazarus
  - Criar um formulário;
  - Aplicar um filtro para clarear a imagem.

# Visualização do Lazarus



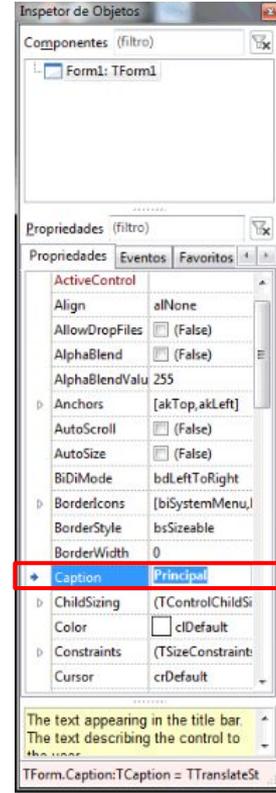
# Implementação

- Salvar a Unit como principal.pas: File/Save
- Salvar o projeto com o nome prog1.dpr: File/Save



# Implementação

- Mudar o nome do formulário para **Principal**.



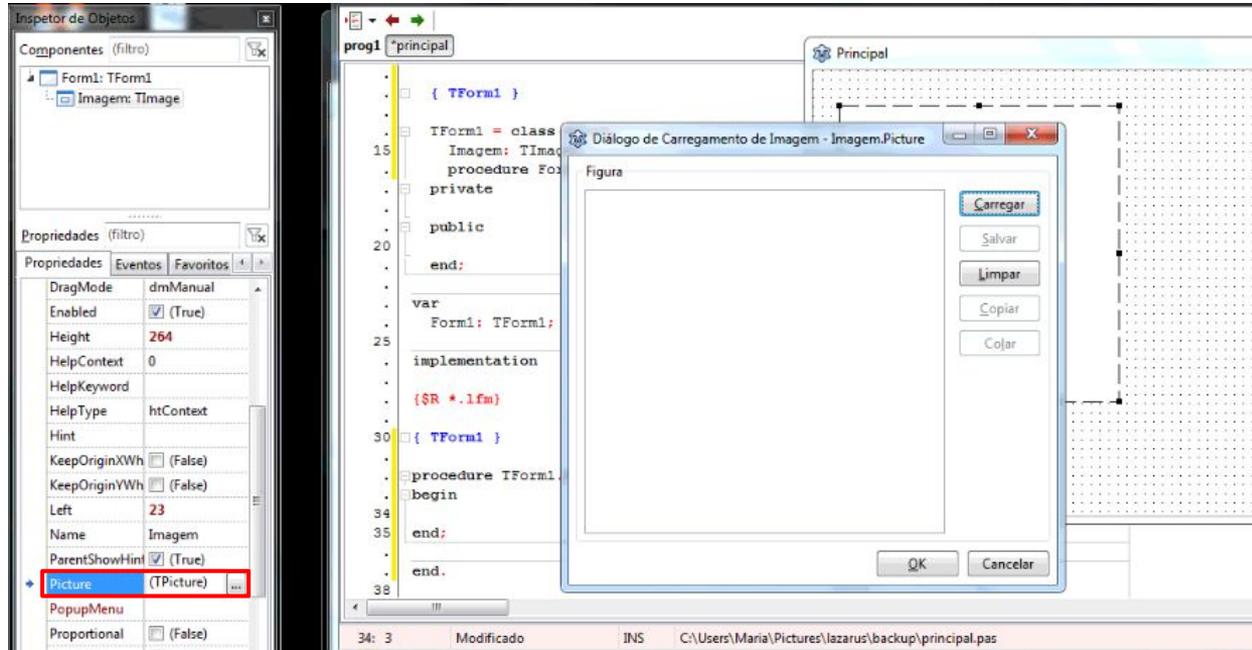
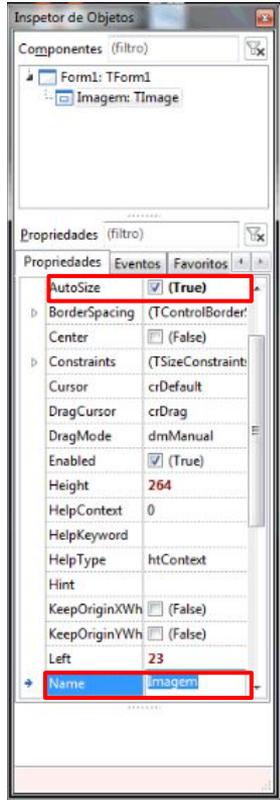
# Implementação

The screenshot displays the Lazarus IDE interface. On the left, the 'Inspector de Objetos' (Object Inspector) shows the 'Form1: TForm1' component with the 'Image: TImage' property highlighted in a red box. The 'Propriedades' (Properties) list shows 'Enabled' is checked and 'Height' is 264. The main editor window shows the 'Editor de Código' (Code Editor) with the following Pascal code:

```
15 TForm1 = class(TForm)
16     Image: TImage;
17     procedure FormCreate(Sender: TObject);
18 private
19     public
20     end;
21
22 var
23     Form1: TForm1;
24
25 implementation
26
27     {$R *.lfm}
28
29 { TForm1 }
30
31 procedure TForm1.FormCreate(Sender: TObject);
32 begin
33
34 end;
35
36 end.
```

Two red arrows point to the 'Image: TImage' property in the Object Inspector and the 'Image: TImage;' declaration in the code editor. A dashed rectangular box is drawn around the 'FormCreate' procedure in the code editor, with a red arrow pointing to its bottom-right corner. The status bar at the bottom indicates the file path: 'C:\Users\Maria\Pictures\lazarus\backup\principal.pas'.

# Implementação



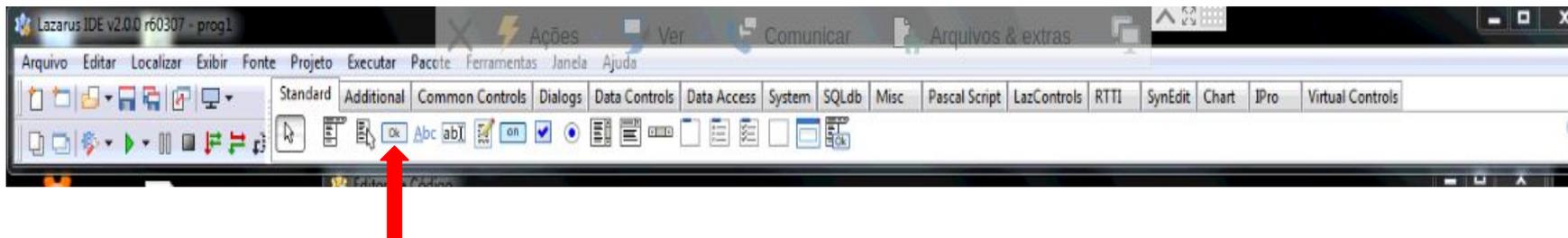
# Implementação

- Inserir outro componente Timage. Mudar o nome para “Nomemimagem” e mudar o atributo Autosize para True;
- Carregar a mesma imagem no componente.



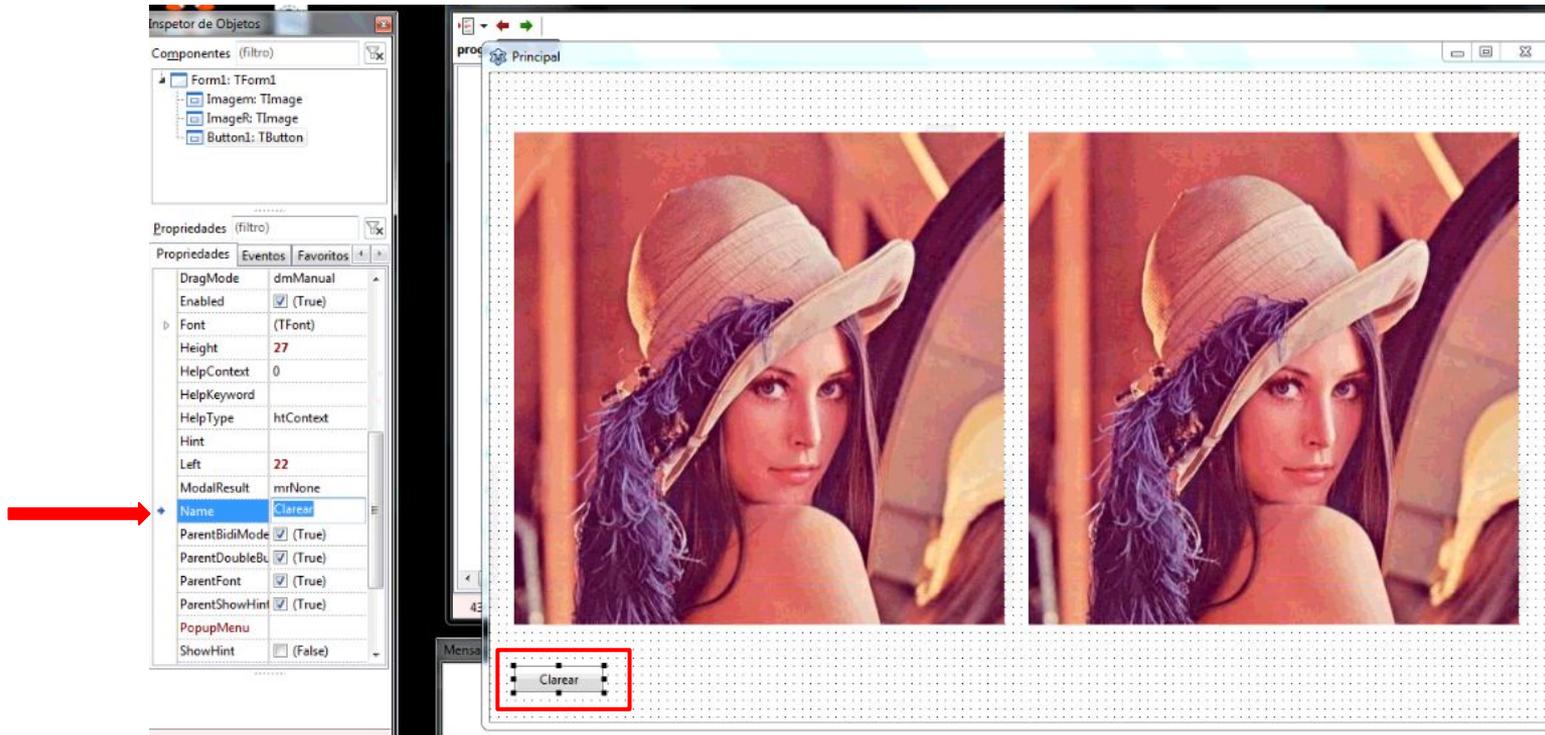
# Implementação

- Inserir um Botão: Barra de Ferramentas Standard.



# Implementação

- Mudar o Nome e o Caption para Clarear.



# Implementação

- Clique duplo no Evento OnClick do Botão Clarear.



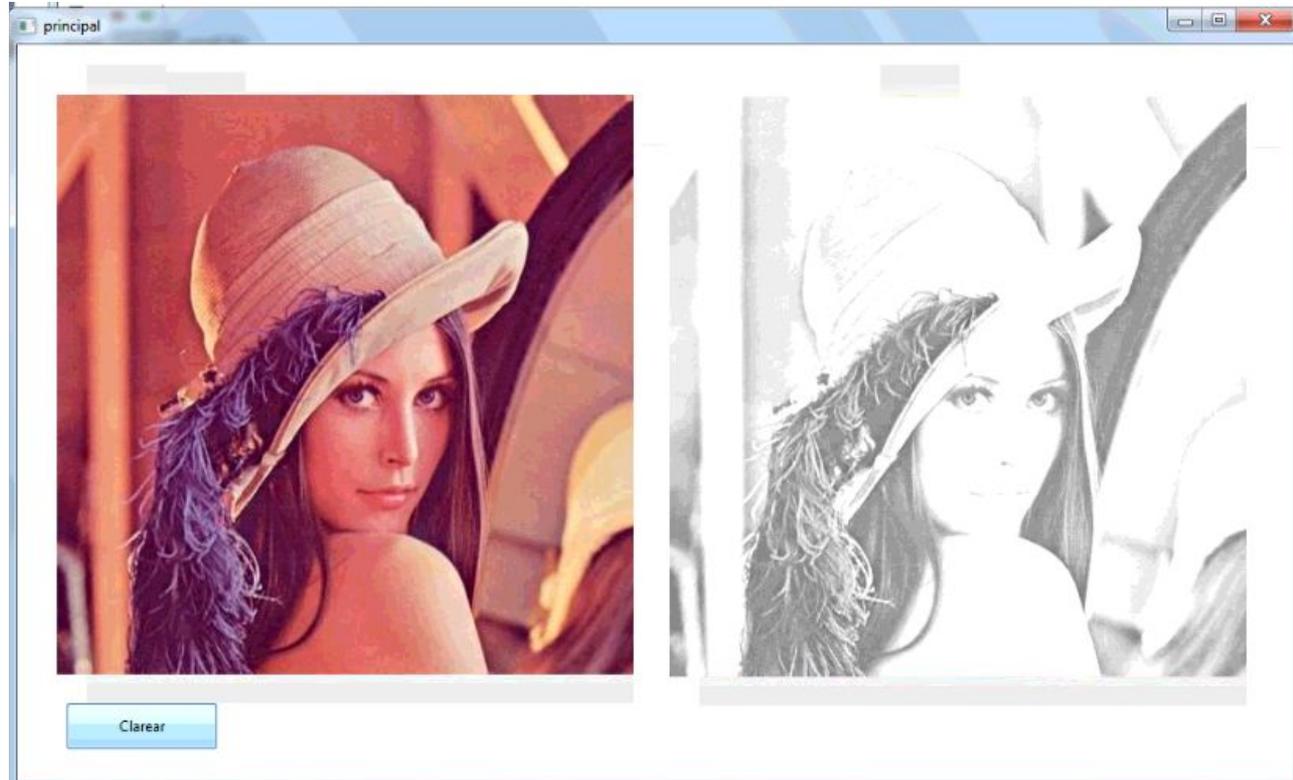
```
1  unit principal;
  .
  .  {$mode objfpc}{$S+}
  .
  5  interface
  .
  .  uses
  8  Classes, SysUtils, Forms, Controls, Graphics, Dialogs, ExtCtrls, StdCtrls, Windows;
  .
  10 type
  .
  .  ( TForm1 )
  .  {$R *.res}
  .  TForm1 = class(TForm)
  15    Clarear: TButton;
  .    ImagemR: TImage;
  .    Imagem: TImage;
  .    procedure ClarearClick(Sender: TObject);
  .  private
  20  .
  .  public
  .
  .    end;
  .
  25 var
  .    TForm, Form1: TForm1;
  .
```



# Implementação

```
Editor de Código
progl principal progl
25 var
  . TForm, Form1: TForm1;
  .
  .
  . implementation
30
31 procedure TForm1.ClarearClick(Sender: TObject);
  . Var linha, coluna, NivelCinza: Integer;
  .
  . begin
  . ImagemR.Height := Imagem.Height;
35 ImagemR.Width := Imagem.Width;
  . for linha := 0 to Imagem.Height Do
  . begin
  . for coluna := 0 to Imagem.Width Do
  . begin
40 NivelCinza:= GetRValue (Imagem.canvas.pixels[coluna,linha]);
  . NivelCinza:= NivelCinza + 60;
  . if NivelCinza > 255 then
  . NivelCinza := 255;
  . ImagemR.canvas.pixels[coluna,linha]:= RGB (NivelCinza,NivelCinza,NivelCinza);
45 Application.ProcessMessages;
  . end;
  . end;
  .
  . end;
```

# Resultado



# Referências

<https://objectpascalprogramming.com/porque-eu-escolhi-delphi-e-object-pascal>

[https://www.youtube.com/watch?v=qECAHgSH7oU&list=PLiLrXujC4CW0vEzxpHGe\\_aKeU2BoLVc7N](https://www.youtube.com/watch?v=qECAHgSH7oU&list=PLiLrXujC4CW0vEzxpHGe_aKeU2BoLVc7N)