

STAY TUNED - FEED STARTING SOON



Belgium Campus Winter School

BELGIUM CAMPUS
iTversity

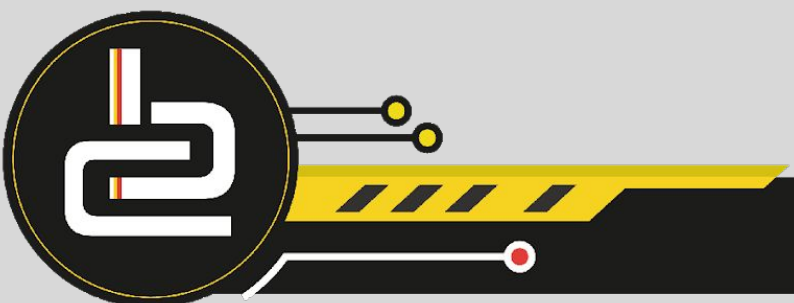
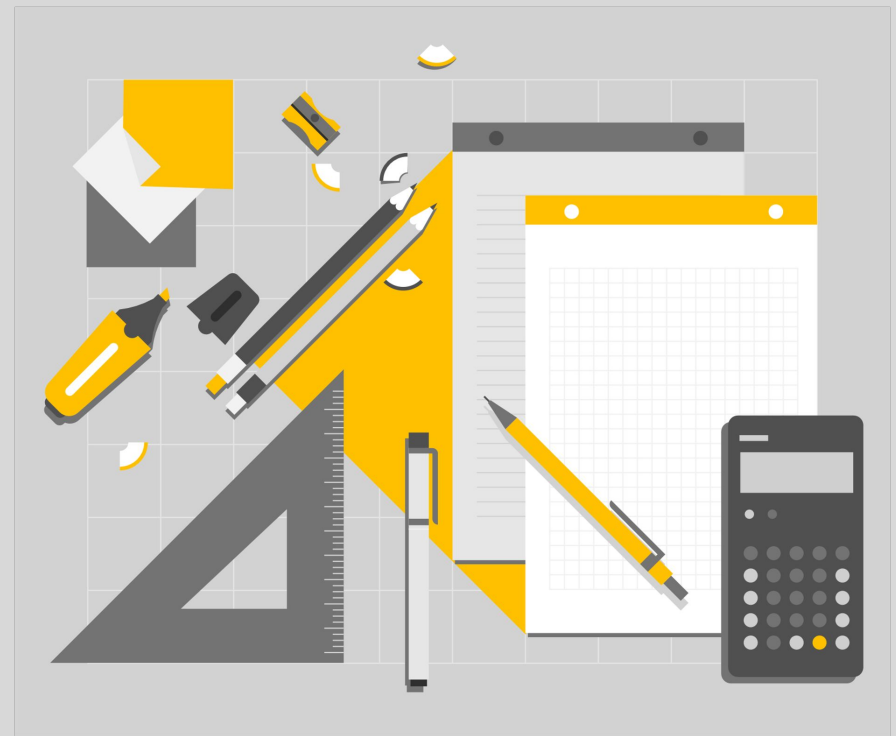


It's the way we're *wired*

DELPHI - TEXT FILES

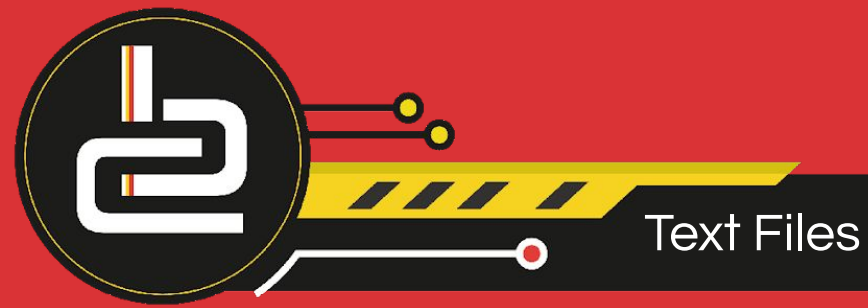
'C:\Users\User\Desktop\test.txt'

V. Pretorius



LESSON OBJECTIVES

- Input and output
- Create a new text file
- Add to an existing text file
- Error handling

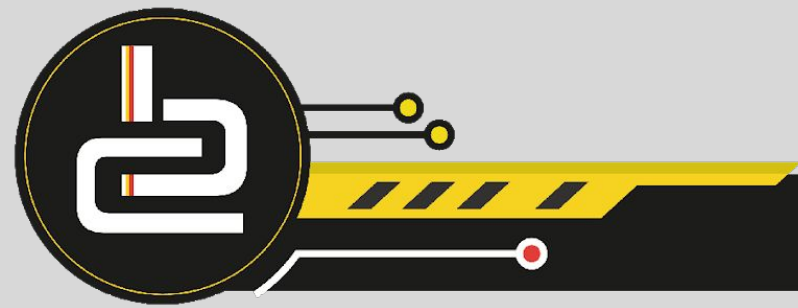


AIM AND PRE-KNOWLEDGE

Aim is to understand the skills to ..

- Input and output data using a text file
- Understand conditional iteration with a text file
- Produce text-based reports from a text file
- Solution development using text files

String manipulation functions and procedures is a pre-requisite for this section of work. Eg copy, pos, delete, insert, uppercase and upcase.

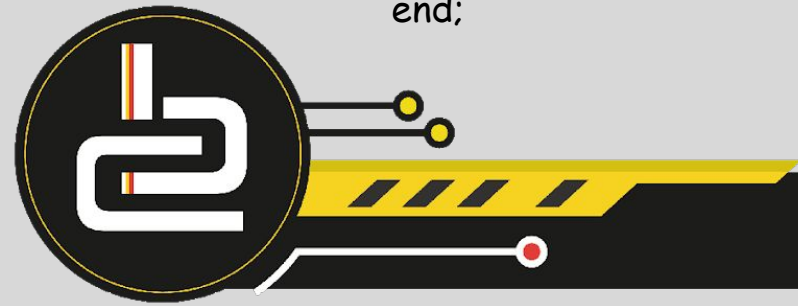
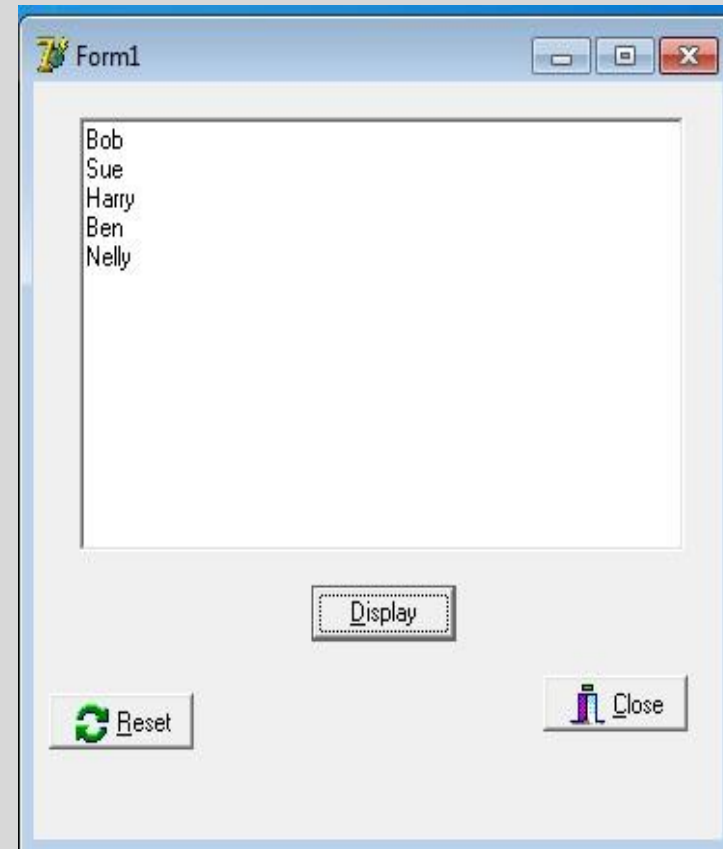


DELPHI EXAMPLE 1

The following procedure reads the external text file, Friends.txt and displays the contents on the form in a richedit component when the Button is clicked.

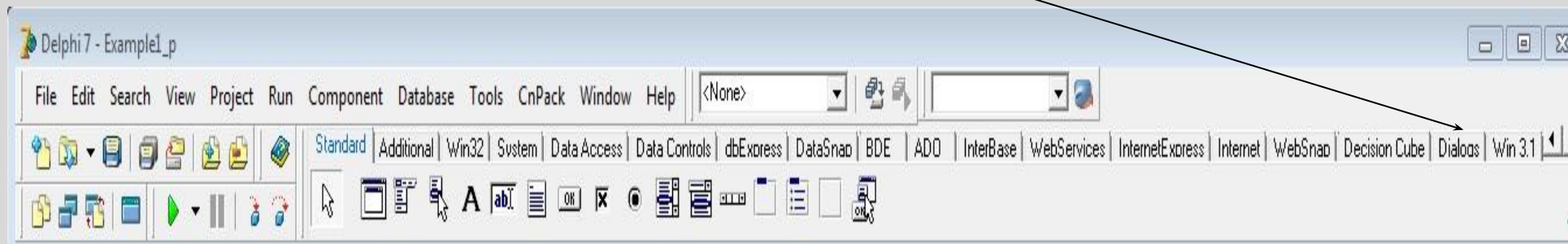
```
VAR MyFile : Textfile;      {1}
    sLine : string;

BEGIN
  Assignfile (MyFile, 'Friends.Txt');  {2}
  IF FileExists ('Friends.Txt') <> True
  THEN Exit          {3}
  ELSE Reset (MyFile);      {4}
  WHILE NOT EOF(Myfile) DO  {5}
  BEGIN
    Readln (Myfile, sLine);  {5a}
    RedDisplay.lines.Add(sLine);  {5b}
  END;
  CloseFile(MyFile);      {6}
end;
```



READ A TEXT FILE USING A DIALOG

- ❑ Delphi contains DialogBox components that makes the standard Windows boxes available for Delphi applications.
- ❑ They serve as user interfaces to open and save files, change fonts and styles and to print files.
- ❑ They can be found in the Dialogs page of the Component palette in Delphi.

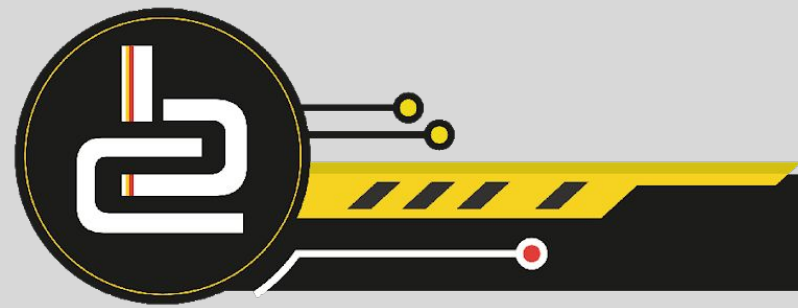


DELPHI EXAMPLE 2

Create a new Delphi application

Do the following on the form:

- Place an Opendialog, richedit and a button (btnLoad) component on the form
- Rename the components
- Double click the BtnLoad button
- Type the instructions (on the next slide) in the BtnLoad procedure in the unit
- Run the project
- Click on the BtnLoad button
- Select the text file "Friends.txt" to open



DELPHI EXAMPLE 2 CONTINUED...

```
Procedure TfrmLoad.btnLoadClick  
(Sender: TObject);  
begin
```

```
  if OpenFileDialog1.Execute
```

```
  then richedit1.Lines.LoadFromFile  
    (OpenDialog1.FileName);
```

```
end;
```

(Open the Example2_p project, run it
And close it to return)

The procedure header

The If statement to test of the
OpenDialog1 has been executed

If true then the Load from file property
of the richedit can open the external
dialog box

The user must input the name of the
file.

Click to see the Example2 in Delphi

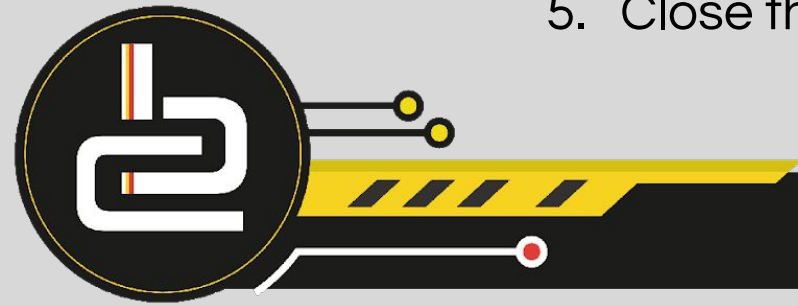


CREATE A NEW TEXT FILE

A text file is created in the Delphi project by clicking the button and inputting the data needed.

Algorithm used to create a text file:

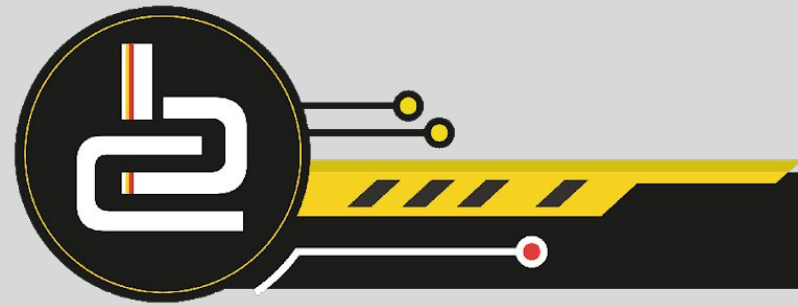
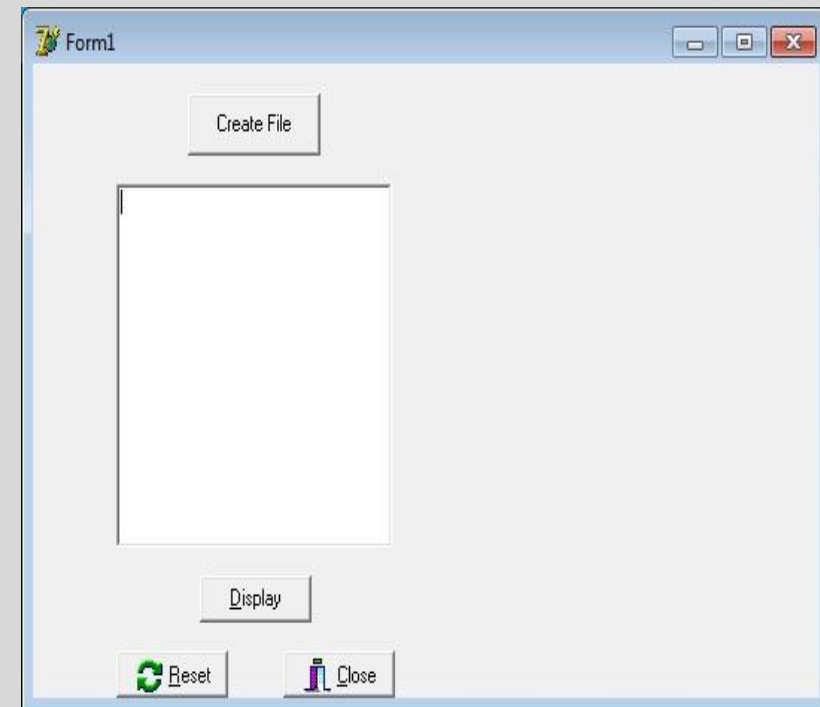
1. Declare variables Eg `VAR MyFile : TextFile; sLine : String;`
2. Link the text file variable to the external file
3. **Open the file to create. The end of file marker gets placed at the beginning of the file.**
4. Use a loop:
 - a. Input the data into the string variable
 - b. `WriteLn` the string variable to the text file variable
5. Close the text file variable, free memory and unflag the memory



DELPHI EXAMPLE 3

```
procedure TForm1.btnCreateClick(Sender: TObject);
VAR  iNum, K : Integer;          {1}
      Tfile :textfile;
begin
  AssignFile(Tfile,'Numbers.txt');{2}
  Rewrite(Tfile);                {3}

  FOR K := 1 to 10 do           {4}
  Begin
    iNum := k;                  {4a}
    WriteLn (Tfile , iNum);     {4b}
  End;
  Closefile(Tfile);            {5}
End;
```

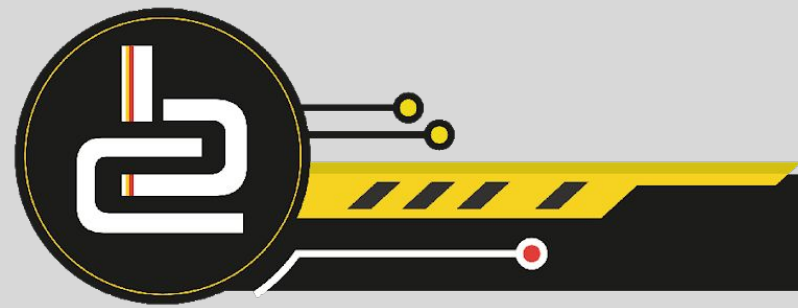


ADD TO AN EXISTING TEXT FILE

There will be times when data needs to be added to a textfile. Append is used instead of Reset or Rewrite.

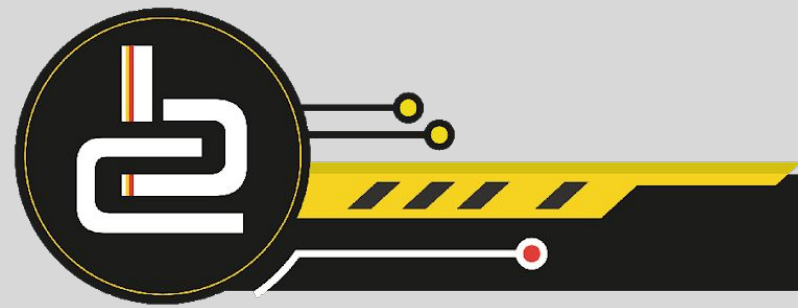
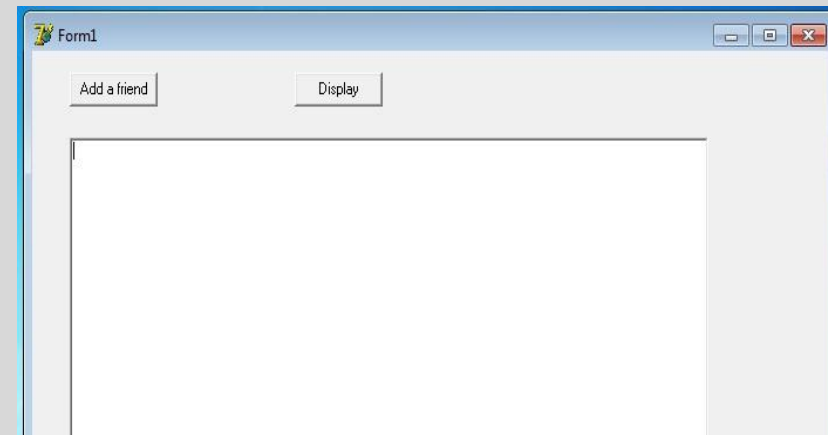
Algorithm used to add to an existing textfile:

1. Declare the variables Eg MyFile : Textfile; sLine : string;
2. Link the text file variable to the external file
3. **Append the text file**
4. Input the new data to add to the text file
5. Write the new data to the text file using writeln or write.
(Write only copies the string but writeln copies the string and the cursor moves to the beginning of the next line)
6. Close the text file variable



DELPHI EXAMPLE 4

```
VAR MyFile : Textfile;           {1}
    sLine : string;
procedure TForm1.btnAddClick(Sender: TObject);
begin
    AssignFile(MyFile, 'Friends.txt');           {2}
    If FileExists('Friends.txt')<> True
    then Exit
    else Append (MyFile);                       {3}
    sLine := InputBox('Enter name of new friend', 'Name: ', ''); {4}
    Writeln(MyFile, sLine);                     {5}
    CloseFile(MyFile);                          {6}
end;
```



EXCEPTION HANDLING – CREATING TEXT FILES

The Try except method is used when creating a new Text file. It is used in order to avoid the program from crashing if there is an input/output error – run time error.

Example of a user entering a number of names separated by a hash key in an edit, the project extracts the names and creates a new text file.

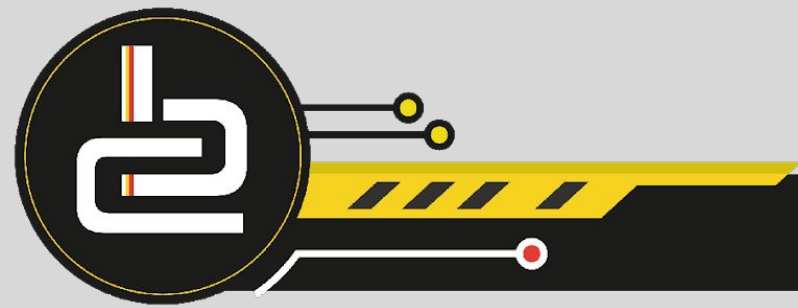
Algorithm used to input the data and create a new text file:

Begin

```
Assignfile (MyFile, 'Friends.txt');
```

```
sWord := EdtEnter.text;
```

```
Rewrite (MyFile);
```



EXCEPTION HANDLING - CREATING TEXT FILES CONTD..

Try

Repeat

sName := Copy(sWord, 1, Pos('#',sWord)-1);

Writeln (MyFile, sName);

except on e:InOutError do

MessageDlg ('Error – execution stops', mtError, [mbOK],0);

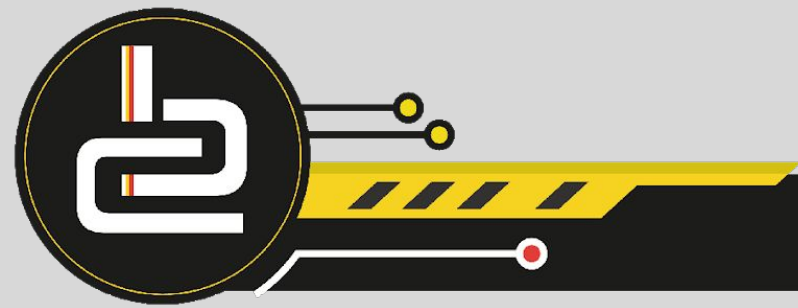
Delete (sWord, 1, pos('#', sWord));

Until Length(sWord) <= 1;

End;

Closefile (MyFile);

End;



EXCEPTION HANDLING – READING TEXT FILES CONTD...

The Try finally method is used when reading the contents of a Text file to avoid the program from crashing - runtime errors.

Begin

```
Assignfile (MyFile, 'Friends.txt');
```

```
Reset (MyFile);
```

Try

```
While not eof(MyFile) do
```

```
begin
```

```
  Readln (MyFile, sName);
```

```
  RedDisplay.Items.Add (sName);
```

```
end;
```

finally

```
  Closefile (MyFile);
```

end;

```
End;
```

