

frmTestParser.pas

```
unit frmTestParser;

interface

uses
  Winapi.Windows, Winapi.Messages, System.SysUtils, System.Variants, System.Classes,
  Vcl.Graphics,
  Vcl.Controls, Vcl.Forms, Vcl.Dialogs,
  Vcl.StdCtrls, CostingSteps, Parser, System.Diagnostics,
  DB, ADODB, Generics.Collections, CCTCostEquations, LCRCostVars, LCRConfig,
  LCRGlobals,
  ParseTypes, ValueUtils, ValueTypes;

type
  TfrmTestParse = class(TForm)
    Button1: TButton;
    Button2: TButton;
    Memo1: TMemo;
    procedure Button1Click(Sender: TObject);
    procedure Button2Click(Sender: TObject);
  private
    { Private declarations }
  public
    { Public declarations }
  end;

var
  frmTestParse: TfrmTestParse;

implementation

{$R *.dfm}

procedure TfrmTestParse.Button1Click(Sender: TObject);
var
  i: integer;
  ADOCon : TADOConnection;
  qDesc, qData : TADOQuery;
  CostVars: TCostVars;
  CostSteps : TCostingSteps;
  Config : TLCRConfig;
begin
  Config := TLCRConfig.Create;

  ADOCon:=TADOConnection.Create(nil);
  ADOCon.ConnectionString:=format(ADOConStr,[Config.BaseVarData]);
  qDesc:=TADOQuery.Create(nil);
  qDesc.Connection:=ADOCon;
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frmTestParser.pas

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qData:=TADOQuery.Create(nil);
qData.Connection:=ADOCon;
qDesc.SQL.Add('select * from InputDesc');
qData.SQL.Add('select * from InputValues');

qDesc.Open;
qData.Open;
CostVars:=TCostVars.Create(qDesc,qData,ChangeFileExt(Config.ScenVarData,'.xlsm'));
qData.Close;
qDesc.Close;
AdoCon.Close;
qDesc.Free;
qData.Free;
ADOCon.Free;

CostSteps := TCostingSteps.Create(CostVars,Config.ScenCostSteps, '',
Config.YearsOfAnalysis,
Config.YearsOfOutput, True);
CostSteps.DiscRate:=Config.DiscountRate;
CostSteps.Config := Config;

CostSteps.Free;
CostVars.Free;
end;

procedure TfrmTestParse.Button2Click(Sender: TObject);
var fParser : TParser;
    TS : TScript;
    a,b,r1,r2 : double;
    i,num : integer;
    SW : TStopWatch;
begin
    num:=1000000;
    fParser:=TParser.Create(nil);
    fParser.Cached := False;
    fParser.AddVariable('a',a);
    fParser.AddVariable('b',b);
    fParser.StringToScript('(a*b) - (b/1.5)',TS);

    sw:=TStopwatch.StartNew;
    for i:=1 to num do begin
        a:=random; b:=random;
        r1:=Convert(fparser.Execute(TS)^, vtDouble).Float64;
    end;
    memo1.Lines.Add('P:'+SW.Elapsed.TotalSeconds.ToString);
```

frmTestParser.pas

```
sw:=TStopwatch.StartNew;  
for i:=1 to num do begin  
  a:=random; b:=random;  
  r2:= (a*b) - (b/1.5);  
end;  
memo1.Lines.Add('C: '+SW.Elapsed.TotalSeconds.ToString);  
  
fParser.Free;  
  
end;  
  
end.
```