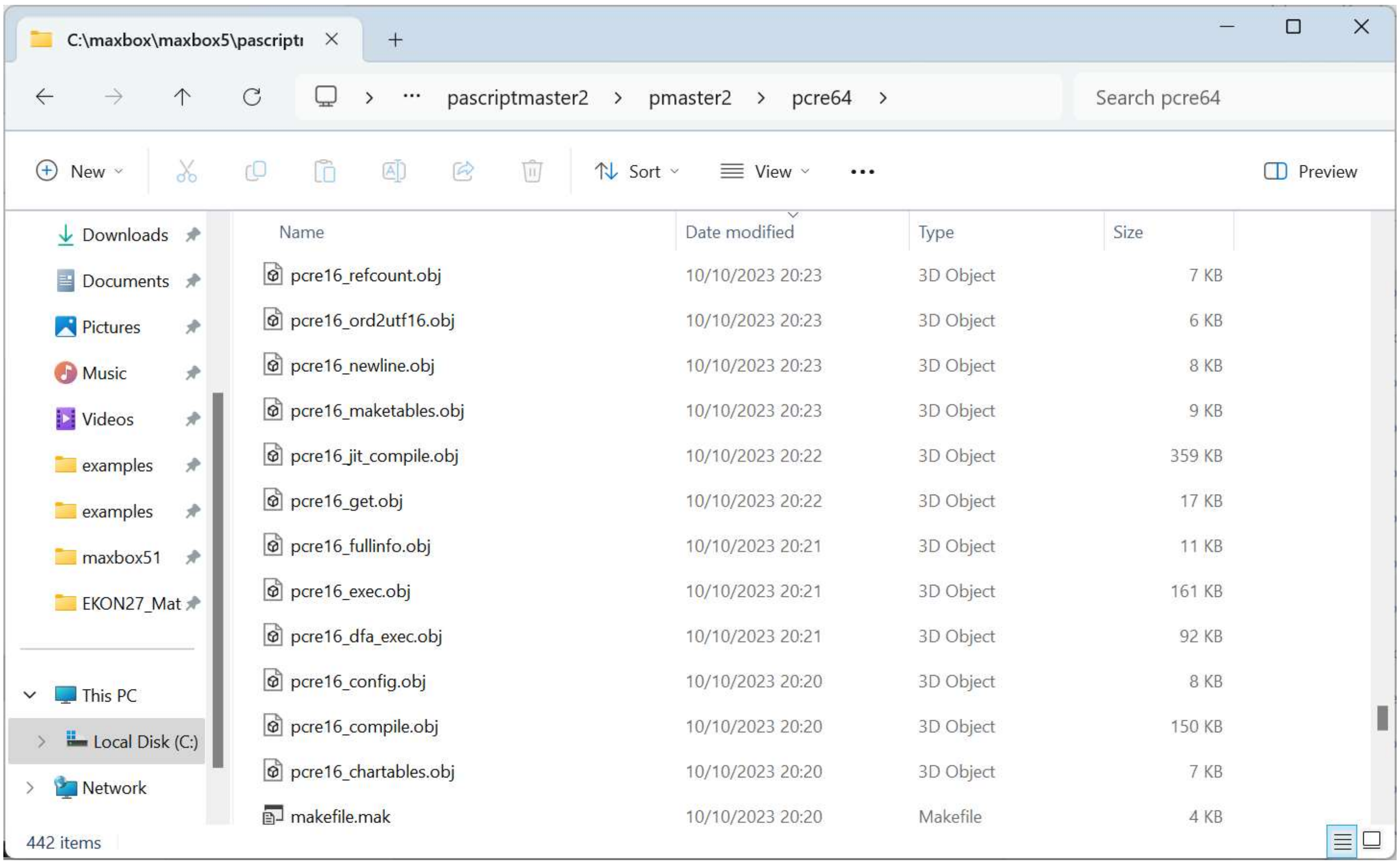
The king of code is back, namely regular expressions as the Rex of Code in scripts.

TPerlRegEx **is** a Delphi VCL wrapper around the open-source PCRE (Perl-Compatible
Regular Expressions) **library**.
It provides powerful regular expression capabilities similar **to** those found **in** the Perl programming l
anguage.
This version **of** TPerlRegEx **is** compatible with the TPerlRegEx **class** in the RegularExpressionsCore **u
nit in** Delphi XE.
You can use TPerlRegEx **to** perform pattern matching, search, **and** replace operations using regular ex
pressions.

The supplied pcrelib.dll **contains** PCRE 7.9, compiled **with** Unicode support.



Name	Date modified	Type	Size
pcre16_refcount.obj	10/10/2023 20:23	3D Object	7 KB
pcre16_ord2utf16.obj	10/10/2023 20:23	3D Object	6 KB
pcre16_newline.obj	10/10/2023 20:23	3D Object	8 KB
pcre16_maketables.obj	10/10/2023 20:23	3D Object	9 KB
pcre16_jit_compile.obj	10/10/2023 20:22	3D Object	359 KB
pcre16_get.obj	10/10/2023 20:22	3D Object	17 KB
pcre16_fullinfo.obj	10/10/2023 20:21	3D Object	11 KB
pcre16_exec.obj	10/10/2023 20:21	3D Object	161 KB
pcre16_dfa_exec.obj	10/10/2023 20:21	3D Object	92 KB
pcre16_config.obj	10/10/2023 20:20	3D Object	8 KB
pcre16_compile.obj	10/10/2023 20:20	3D Object	150 KB
pcre16_chartables.obj	10/10/2023 20:20	3D Object	7 KB
makefile.mak	10/10/2023 20:20	Makefile	4 KB

Compiled with a makefile in maXbox5 for example

By **default**, OBJ files are used (like
above), but you can use the DLL **if** you have multiple apps using TPerlRegEx and want to save space
by linking the OBJ files only once.
There's no need **to** add the pcre **unit to** your **uses** clause; it's used internally by TPerlRegEx.
TPerlRegEx **is** licensed under the Mozilla **Public** License, version 1.1.
To download the latest version of TPerlRegEx, visit the official page.

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[https://www.pcre.org/original/doc/html/pcre16.html (https://www.pcre.org/original/doc/html/pcre16.html)](https://www.pcre.org/original/doc/html/pcre16.html)

Starting with release 8.30, it is possible to compile a PCRE library that supports 16-bit character strings, including UTF-16 strings, as well as or instead of the original 8-bit library. The majority of the work to make this possible was done by Zoltan Herczeg. The two libraries contain identical sets of functions, used in exactly the same way. Only the names of the functions and the data types of their arguments and results are different.

To avoid over-complication and reduce the documentation maintenance load, most of the PCRE documentation describes the 8-bit library, with only occasional references to the 16-bit library.

Usage Example:

```
var reg: TPerlRegEx;
begin
  reg := TPerlRegEx.Create(nil);
  try
    reg.RegEx := 'ab';
    reg.Replacement := '◆';
    reg.Subject := 'ababab';
    reg.ReplaceAll;
    ShowMessage(reg.Subject); // Returns: ◆◆◆
  finally
    reg.Free;
  end;
end;
```

Or you want to replace a pattern-string at the fly or at runtime:

```
with TPerlRegEx.Create do
   try
     Subject :='<p>This is text.<br/> This is line 2</p>';
     RegEx := '<[^>]*>';
     //RegEx:= '([</pbr>])*'
     replacement:= ' ';
     replaceall();
     writeln('res: '+subject);
   finally
     Free;
   end;
```

The output is: res: This is text. This is line 2

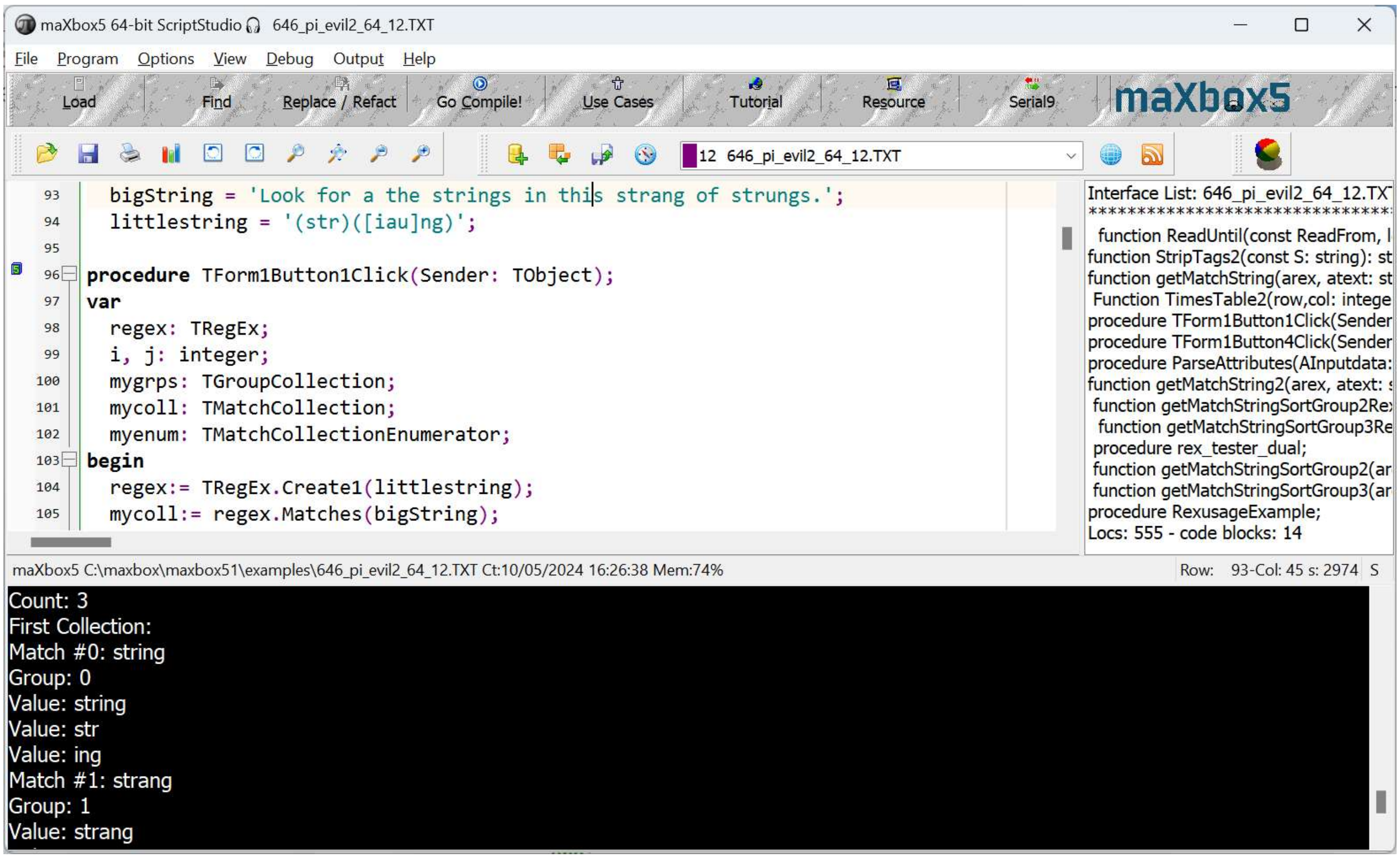
A more modern implementation is to code with a **TMatch** and **TMatchCollection** class. This example demonstrates the use of TMatchCollection and TGroupCollection. This example assumes that you have placed a TButton, a TEdit and a TMemo on a form.

```
var
  Form1: TForm1;
  mycoll: TMatchCollection;
  myenum: TMatchCollectionEnumerator;

implementation

{$R *.dfm}

// Creates and lists the match collection, the matches in that
// collection and the groups in those matches.
procedure TForm1.Button1Click(Sender: TObject);
const
  bigString = 'Look for a the strings in this strang of strungs.';
  littlestring = '(str)([iau]ng)';
var
  regex: TRegEx;
  i, j: integer;
  mygrps: TGroupCollection;
begin
  regex:= TRegEx.Create(littlestring);
  mycoll:= regex.Matches(bigString);
  Edit1.Text:= 'Count: ' + IntToStr(mycoll.Count);
  memo1.Lines.Add('First Collection: ');
  for i:= 0 to mycoll.Count-1 do begin
    memo1.Lines.Add('Match #' + IntToStr(i) + ': ' + mycoll.Item[i].Value);
    memo1.Lines.Add('Group: ' + IntToStr(i));
    mygrps:= mycoll.Item[i].Groups;
    for j:= 0 to mygrps.Count-1 do
      memo1.Lines.Add('Value: ' + mygrps.Item[j].Value);
  end;
end;
```


maXbox5 64-bit ScriptStudio 646_pi_evil2_64_12.TXT
File Program Options View Debug Output Help
Load Find Replace / Refact Go Compile! Use Cases Tutorial Resource Serial9
maXbox5
12 646_pi_evil2_64_12.TXT

```
  bigString = 'Look for a the strings in this strang of strungs.';
  littlestring = '(str)([iau]ng)';

procedure TForm1Button1Click(Sender: TObject);
var
  regex: TRegEx;
  i, j: integer;
  mygrps: TGroupCollection;
  mycoll: TMatchCollection;
  myenum: TMatchCollectionEnumerator;
begin
  regex:= TRegEx.Create1(littlestring);
  mycoll:= regex.Matches(bigString);
```

```
Interface List: 646_pi_evil2_64_12.TX
********************************
 function ReadUntil(const ReadFrom, I
function StripTags2(const S: string): st
function getMatchString(arex, atext: st
 Function TimesTable2(row,col: intege
procedure TForm1Button1Click(Sender
procedure TForm1Button4Click(Sender
procedure ParseAttributes(AInputdata:
function getMatchString2(arex, atext: s
 function getMatchStringSortGroup2Re
  function getMatchStringSortGroup3Re
 procedure rex_tester_dual;
 function getMatchStringSortGroup2(ar
 function getMatchStringSortGroup3(ar
procedure RexusageExample;
Locs: 555 - code blocks: 14
```

```
maXbox5 C:\maxbox\maxbox51\examples\646_pi_evil2_64_12.TXT Ct:10/05/2024 16:26:38 Mem:74%     Row:  93-Col: 45 s: 2974  S
```

```
Count: 3
First Collection:
Match #0: string
Group: 0
Value: string
Value: str
Value: ing
Match #1: strang
Group: 1
Value: strang
```

Code as script:
https://sourceforge.net/projects/maxbox/files/Examples/13_General/646_pi_evil2_64_12.TXT/download (https://sourceforge.net/projects/maxbox/files/Examples/13_General/646_pi_evil2_64_12.TXT/download)

The item of a TMatchCollection returns the Match identified by index from the collection (ex. **tmatches[it-1].value]** below).

https://docwiki.embarcadero.com/CodeExamples/Alexandria/en/TMatchCollectionCount_(Delphi) (https://docwiki.embarcadero.com/CodeExamples/Alexandria/en/TMatchCollectionCount_(Delphi))

In general matches from a TRegEx returns all the matches present in the input string an is useful to iterate through a group or captured group:

```
function getMatchString2(arex, atext: string): string;
var  Match: TMatch;  tMatches: TMatchCollection;
       myenum: TMatchCollectionEnumerator;
 begin
   with TRegEx.Create1(arex)  do
   try
     it:= 0;
     { Match format search...}
     result:= result+CRLF;
     if ismatch(atext) then
         tMatches:=Matches(aText);
     writeln('captured groups: '+itoa(tmatches.count ));
       repeat
         Inc(it);
         result:= result+Format(#09'%d: %-12s',[it, tmatches[it-1].value])
         if it mod 5=0 then
           result:= result+#13#10;
       //until match(atext).success;  //MatchNext < 0;
       until it = tmatches.count;
   finally
     Free;
   end;
   WriteLn('Done REX2 - Hit NOthing to exit');
 end;
```

```
PI EXplore5:
1: 33 2: 88 3: 99 4: 44 5: 99
6: 11 7: 66 8: 44 9: 55 10: 22
11: 111 12: 11 13: 555 14: 44 15: 22
16: 44 17: 88 18: 66 19: 33 20: 44
21: 33 22: 66 23: 66 24: 33 25: 00
26: 66 27: 55 28: 88 29: 88 30: 00
31: 11 32: 33 33: 88 34: 66 35: 11
36: 33 37: 11 38: 11 39: 11 40: 44
41: 99 42: 88 43: 22 44: 11 45: 33
46: 33 47: 44 48: 66 49: 22 50: 77
51: 66 52: 000 53: 77 54: 77 55: 77
56: 44 57: 22 58: 22 59: 99 60: 11
61: 44 62: 77 63: 77 64: 99 65: 11
66: 999999 67: 99 68: 44 69: 55 70: 22
71: 33 72: 44 73: 11 74: 88 75: 000
76: 88 77: 33 78: 77 79: 66 80: 55
81: 11 82: 88 83: 77 84: 77 85: 22
86: 66 87: 00 88: 66 89: 111
```

Matches returns all the matches present in the **Input** string in the form of a **TMatchCollection (https://docwiki.embarcadero.com/Libraries/Alexandria/en/System.RegularExpressions.TMatchCollection)** instance. If the **Pattern** parameter is not present the regular expression used is specified in the **TRegEx (https://docwiki.embarcadero.com/Libraries/Alexandria/en/System.RegularExpressions.TRegEx)** constructor.

StartPos specifies the starting position to start the search. **TMatchCollection** has no public constructor. It is created as the return value of the **Matches (https://docwiki.embarcadero.com/Libraries/Alexandria/en/System.RegularExpressions.TRegEx.Matches)** method. The collection is populated with one TMatch instance for each match found in the input string. The **Count (https://docwiki.embarcadero.com/Libraries/Alexandria/en/System.RegularExpressions.TMatchCollection.Count)** property is the length of the TMatchCollection set. **Length** specifies the substring, starting at **StartPos** to match with the regular expressions.

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Posted in **EKON**, **Engineering**, **maXbox**, **Regular Expression**, **Tutorials** Tagged **#Python**, **java**, **Pascal**, **perl**, **Python**, **regex**, **Regular Expression**, **regular expressions** **2 Comments**

2 thoughts on “Modern Regex”

1. **maxbox4** says:
   May 10, 2024 at 3:05 pm **Edit**
   WARNING: A single application can be linked with both libraries, but you must take care when processing any particular pattern to use functions from just one library. For example, if you want to study a pattern that was compiled with **pcre16_compile()**, you must do so with **pcre16_study()**, not **pcre_study()**, and you must free the study data with **pcre16_free_study()**.

   REPLY

1. **maxbox4** says:
   May 10, 2024 at 4:09 pm **Edit**
   You can test the Core PerlRegEx in dual with the Delphi TRegEx implementation in the following script:
   https://sourceforge.net/projects/maxbox/files/Examples/13_General/1288_regex_dualtest_2_stackoverflow64.TXT/download

   REPLY