

The rotchiffre package

Heiko Oberdiek*

2016/05/16 v1.1

Abstract

This package implements chiffres ROT13 with its variants ROT5, ROT18, and ROT47.

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*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

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1 Documentation

1.1 Motivation

In the newsgroup `comp.text.tex` there was a discussion [1] about package fontspec. Stephan Hennig provided an example to implement ROT13 as OpenType feature [2]. And Robin Fairbairns requested a CTAN upload [3] ☹.

But I think it would be not fair to the users of old $\text{T}_{\text{E}}\text{X}$ engines without OpenType support that they will not be able to decrypt texts generated by the new package ☹. Therefore I have written this package that implements ROT13 even for ini- $\text{T}_{\text{E}}\text{X}$. Also other variants ROT5, ROT18, ROT47 are provided.

1.2 Usage

`\EdefRot {<type>} {<cmd>} {<text>}`

The $\langle text \rangle$ is expanded and sanitized. All tokens are letters with catcode 12 (other) with the exeption of the space token that has character code 32 (0x20) and catcode 10 (space). This follows $\text{T}_{\text{E}}\text{X}$'s convention of `\string` and `\meaning`.

The chiffre type is specified by $\langle type \rangle$ it takes a number. For example, ROT13 is specified by 13. The selected chiffre is applied to $\langle text \rangle$ and the result is stored in macro $\langle cmd \rangle$.

The following table lists the supported rotation chiffres.

chiffre	from	to
ROT13	A-Z	N-Z A-M
	a-z	n-z a-m
ROT5	0-9	5-9 0-4
ROT18	A-Z 0-9	S-Z 0-9 A-R
	a-z	n-z a-m
ROT47	!-~	P-~ !-0

In case of ROT47 the range is the ASCII range from character codes 33 (0x21) ‘!’ upto 126 (0xFE) ‘~’.

The specifications of the algorithms are taken from the description in Wikipedia [4, 5], ROT18 is further specified by “computerfreak” [6].

1.2.1 Examples

The famous English pangram [7] is converted by

```
\EdefRot{13}\result{The quick brown fox jumps over the lazy dog}
```

The result is stored in macro `\result` with the following contents:

```
Gur dhvpx oebja sbk whzcf bire gur ynml qbt
```

Command names are converted to strings before. Therefore the text should not contain \TeX markup, example:

```
\EdefRot{13}\result{\texttt{Hello}\par\textit{World}}
\result → Uryyb\nqinapr \cne@qrnguplpyrf \@ar Jbeyq
```

But macros can be used that contain text. They are expanded.

```
\newcommand{\Name}{Heiko}
\newcommand{\Email}{heiko.oberdiek at gmail.com}
\EdefRot{13}\result{Hello \Name\space\Email}
\result → Uryyb Urvxb <urvxb.boreqvr ng tbbtyrznvy.pbz>
```

2 Implementation

```
1 \<package>
```

2.1 Reload check and package identification

Reload check, especially if the package is not used with \LaTeX .

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@rotchiffre.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
24 }%
25 \else
26 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27 \fi
28 \x{rotchiffre}{The package is already loaded}%
29 \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%
```

Package identification:

```
33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '

```

```

38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51 \def\x#1#2#3[#4]{\endgroup
52 \immediate\write-1{Package: #3 #4}%
53 \xdef#1[#4}%
54 }%
55 \else
56 \def\x#1#2[#3]{\endgroup
57 #2[#{#3}]%
58 \ifx#1\undefined
59 \xdef#1[#3}%
60 \fi
61 \ifx#1\relax
62 \xdef#1[#3}%
63 \fi
64 }%
65 \fi
66 \expandafter\x\csname ver@rotchiffre.sty\endcsname
67 \ProvidesPackage{rotchiffre}%
68 [2016/05/16 v1.1 Perform simple rotation ciphers (H0)]%

```

2.2 Catcodes

```

69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^^M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76 \expandafter\edef\csname RotCh@AtEnd\endcsname{%
77 \endlinechar=\the\endlinechar\relax
78 \catcode13=\the\catcode13\relax
79 \catcode32=\the\catcode32\relax
80 \catcode35=\the\catcode35\relax
81 \catcode61=\the\catcode61\relax
82 \catcode64=\the\catcode64\relax
83 \catcode123=\the\catcode123\relax
84 \catcode125=\the\catcode125\relax
85 }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {

```

```

93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\RotCh@AtEnd{%
96     \RotCh@AtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{42}{12}% *
102 \TMP@EnsureCode{43}{12}% +
103 \TMP@EnsureCode{45}{12}% -
104 \TMP@EnsureCode{46}{12}% .
105 \TMP@EnsureCode{47}{12}% /
106 \TMP@EnsureCode{60}{12}% <
107 \TMP@EnsureCode{62}{12}% >
108 \TMP@EnsureCode{91}{12}% [
109 \TMP@EnsureCode{93}{12}% ]
110 \TMP@EnsureCode{96}{12}% `
111 \edef\RotCh@AtEnd{\RotCh@AtEnd\noexpand\endinput}

```

2.3 Loading resources

```

112 \begingroup\expandafter\expandafter\expandafter\endgroup
113 \expandafter\ifx\csname RequirePackage\endcsname\relax
114   \input infwarerr.sty\relax
115   \input ltxcmds.sty\relax
116   \input pdfescape.sty\relax
117 \else
118   \RequirePackage{infwarerr}[2010/04/08]%
119   \RequirePackage{ltxcmds}[2010/03/01]%
120   \RequirePackage{pdfescape}[2010/03/01]%
121 \fi

```

2.4 \EdefRot as robust macro

The main macro `\EdefRot` is made robust if ε -TEX or L^AT_EX are present.

`\EdefRot`

```

122 \ltx@ifundefined{protected}{%
123   \ltx@ifundefined{DeclareRobustCommand}{%
124     \def\RotCh@temp{\def\EdefRot##1}%
125   }{%
126     \def\RotCh@temp{\DeclareRobustCommand*\EdefRot[1]}%
127   }%
128 }{%
129   \def\RotCh@temp{\protected\def\EdefRot##1}%
130 }
131 \RotCh@temp{%
132   \RotCh@GetNumber{#1}%
133   \ltx@ifundefined{RotCh@rot@romannumeral\RotCh@number}{%
134     \@PackageError{rotchiffre}{%
135       Unknown chiffre ROT\RotCh@number
136     }{\@ehc}
137     \EdefSanitize
138   }{%
139     \RotCh@rot
140   }%
141 }

```

`\RotCh@GetNumber` If ε -TeX is active, then the chiffré number can be an expression supported by `\numexpr`.

```

142 \ltx@ifundefined{numexpr}{%
143   \def\RotCh@GetNumber#1{%
144     \edef\RotCh@number{\number#1}%
145   }%
146 }{%
147   \def\RotCh@GetNumber#1{%
148     \edef\RotCh@number{\the\numexpr#1\relax}%
149   }%
150 }

```

2.5 Set `\lccode` on a range of characters

```

\RotCh@count
151 \countdef\RotCh@count=255 %

\RotCh@count@end
152 \countdef\RotCh@count@end=2 %

RotCh@RangeIgnore
153 \def\RotCh@RangeIgnore{%
154   \RotCh@loop{%
155     \lccode\RotCh@count=\ltx@zero
156   }%
157 }

\RotCh@RangeSet
158 \ltx@ifundefined{numexpr}{%
159   \countdef\RotCh@count@temp=4 %
160   \def\RotCh@RangeSet#1{%
161     \RotCh@loop{%
162       \RotCh@count@temp=\RotCh@count
163       \advance\RotCh@count@temp #1 %
164       \lccode\RotCh@count=\RotCh@count@temp
165     }%
166   }%
167 }{%
168   \def\RotCh@RangeSet#1{%
169     \RotCh@loop{%
170       \lccode\RotCh@count=\numexpr\RotCh@count#1\relax
171     }%
172   }%
173 }

\RotCh@loop
174 \def\RotCh@loop#1#2#3{%
175   \RotCh@count=#2 %
176   \RotCh@count@end=#3 %
177   \def\RotCh@action{#1}%
178   \RotCh@@loop
179 }%

RotCh@@loop
180 \def\RotCh@@loop{%
181   \RotCh@action
182   \ifnum\RotCh@count<\RotCh@count@end

```

```

183     \advance\RotCh@count\ltx@one
184     \expandafter\RotCh@@loop
185     \fi
186 }

```

2.6 Chiffres

2.6.1 ROT13

```

\RotCh@rot@xiii
187 \def\RotCh@rot@xiii{%
188   \RotCh@RangeIgnore{0}{64}%
189   \RotCh@RangeSet{+13}{65}{77}%
190   \RotCh@RangeSet{-13}{78}{90}%
191   \RotCh@RangeIgnore{91}{96}%
192   \RotCh@RangeSet{+13}{97}{109}%
193   \RotCh@RangeSet{-13}{110}{122}%
194   \RotCh@RangeIgnore{123}{255}%
195 }

```

2.6.2 ROT5

```

\RotCh@rot@v
196 \def\RotCh@rot@v{%
197   \RotCh@RangeIgnore{0}{47}%
198   \RotCh@RangeSet{+5}{48}{52}%
199   \RotCh@RangeSet{-5}{53}{57}%
200   \RotCh@RangeIgnore{58}{255}%
201 }

```

2.6.3 ROT18

```

\RotCh@rot@xviii
202 \def\RotCh@rot@xviii{%
203   \RotCh@RangeIgnore{0}{47}%
204   \RotCh@RangeSet{+25}{48}{57}%
205   \RotCh@RangeIgnore{58}{64}%
206   \RotCh@RangeSet{+18}{65}{72}%
207   \RotCh@RangeSet{-25}{73}{82}%
208   \RotCh@RangeSet{-18}{83}{90}%
209   \RotCh@RangeIgnore{91}{96}%
210   \RotCh@RangeSet{+13}{97}{109}%
211   \RotCh@RangeSet{-13}{110}{122}%
212   \RotCh@RangeIgnore{123}{255}%
213 }

```

2.6.4 ROT47

```

\RotCh@rot@xlvii
214 \def\RotCh@rot@xlvii{%
215   \RotCh@RangeIgnore{0}{32}%
216   \RotCh@RangeSet{+47}{33}{79}%
217   \RotCh@RangeSet{-47}{80}{126}%
218   \RotCh@RangeIgnore{127}{255}%
219 }

```

2.7 \RotCh@rot with big char support

Some modern T_EX engines support characters with more than eight bits (codes greater as 255). LuaT_EX and X_YT_EX are detected by the caret notation that is extended by these engines.

```
220 \begingroup
221   \catcode0=9 %
222   \catcode\^=7 %
223   \catcode\^^=12 %
224   \def\x{^^^^0000}%
225 \expandafter\endgroup
226 \ifx\x\ltx@empty

\RotCh@toks

227   \toksdef\RotCh@toks=0 %

\RotCh@rot

228   \long\def\RotCh@rot#1#2{%
229     \EdefSanitize#1{#2}%
230     \begingroup
231       \csname RotCh@rot@\romannumeral\RotCh@number\endcsname
232       \RotCh@toks={} %
233       \expandafter\RotCh@SplitSpace#1 \@nil
234     \expandafter\endgroup
235     \expandafter\def\expandafter#1\expandafter{%
236       \the\RotCh@toks
237     }%
238   }%

\RotCh@SplitSpace

239   \def\RotCh@temp#1{%
240     \def\RotCh@SplitSpace##1 ##2\@nil{%
241       \RotCh@Add##1\relax
242       \ifx\relax##2\relax
243         \expandafter\ltx@gobble
244       \else
245         \RotCh@toks\expandafter{\the\RotCh@toks#1}%
246         \expandafter\ltx@firstofone
247       \fi
248       {%
249         \RotCh@SplitSpace##2\@nil
250       }%
251     }%
252   }%
253   \RotCh@temp{ }%

\RotCh@Add

254   \def\RotCh@Add#1{%
255     \ifx#1\relax
256     \else
257       \ifnum`#1>126 %
258         \RotCh@toks\expandafter{\the\RotCh@toks#1}%
259       \else
260         \lowercase{%
261           \RotCh@toks\expandafter{\the\RotCh@toks#1}%
262         }%
263       \fi
264       \expandafter\RotCh@Add
```



```

265 \fi
266 }%

267 \else

```

2.8 \RotCh@rot without big char support

\RotCh@rot

```

268 \long\def\RotCh@rot#1#2{%
269 \EdefSanitize#1{#2}%
270 \begingroup
271 \csname RotCh@rot@\romannumeral\RotCh@number\endcsname
272 \lowercase\expandafter{\expandafter\endgroup
273 \expandafter\def\expandafter#1\expandafter{#1}%
274 }%
275 }%

276 \fi

277 \RotCh@AtEnd%
278 \</package>

```

3 Test

3.1 Catcode checks for loading

```

279 \<{*test1}

280 \catcode`\{=1 %
281 \catcode`\}=2 %
282 \catcode`\#=6 %
283 \catcode`\@=11 %
284 \expandafter\ifx\csname count@\endcsname\relax
285 \countdef\count@=255 %
286 \fi
287 \expandafter\ifx\csname @gobble\endcsname\relax
288 \long\def@gobble#1{%
289 \fi
290 \expandafter\ifx\csname @firstofone\endcsname\relax
291 \long\def@firstofone#1{#1}%
292 \fi
293 \expandafter\ifx\csname loop\endcsname\relax
294 \expandafter@firstofone
295 \else
296 \expandafter@gobble
297 \fi
298 {%
299 \def\loop#1\repeat{%
300 \def\body{#1}%
301 \iterate
302 }%
303 \def\iterate{%
304 \body
305 \let\next\iterate
306 \else
307 \let\next\relax
308 \fi
309 \next
310 }%

```

```

311 \let\repeat=\fi
312 }%
313 \def\RestoreCatcodes{}
314 \count@=0 %
315 \loop
316 \edef\RestoreCatcodes{%
317 \RestoreCatcodes
318 \catcode\the\count@=\the\catcode\count@\relax
319 }%
320 \ifnum\count@<255 %
321 \advance\count@ 1 %
322 \repeat
323
324 \def\RangeCatcodeInvalid#1#2{%
325 \count@=#1\relax
326 \loop
327 \catcode\count@=15 %
328 \ifnum\count@<#2\relax
329 \advance\count@ 1 %
330 \repeat
331 }
332 \def\RangeCatcodeCheck#1#2#3{%
333 \count@=#1\relax
334 \loop
335 \ifnum#3=\catcode\count@
336 \else
337 \errmessage{%
338 Character \the\count@\space
339 with wrong catcode \the\catcode\count@\space
340 instead of \number#3%
341 }%
342 \fi
343 \ifnum\count@<#2\relax
344 \advance\count@ 1 %
345 \repeat
346 }
347 \def\space{ }
348 \expandafter\ifx\csname LoadCommand\endcsname\relax
349 \def\LoadCommand{\input rotchiffre.sty\relax}%
350 \fi
351 \def\Test{%
352 \RangeCatcodeInvalid{0}{47}%
353 \RangeCatcodeInvalid{58}{64}%
354 \RangeCatcodeInvalid{91}{96}%
355 \RangeCatcodeInvalid{123}{255}%
356 \catcode`\@=12 %
357 \catcode`\=0 %
358 \catcode`\%=14 %
359 \LoadCommand
360 \RangeCatcodeCheck{0}{36}{15}%
361 \RangeCatcodeCheck{37}{37}{14}%
362 \RangeCatcodeCheck{38}{47}{15}%
363 \RangeCatcodeCheck{48}{57}{12}%
364 \RangeCatcodeCheck{58}{63}{15}%
365 \RangeCatcodeCheck{64}{64}{12}%
366 \RangeCatcodeCheck{65}{90}{11}%
367 \RangeCatcodeCheck{91}{91}{15}%
368 \RangeCatcodeCheck{92}{92}{0}%

```

```

369 \RangeCatcodeCheck{93}{96}{15}%
370 \RangeCatcodeCheck{97}{122}{11}%
371 \RangeCatcodeCheck{123}{255}{15}%
372 \RestoreCatcodes
373 }
374 \Test
375 \csname @@end\endcsname
376 \end
377 </test1>

```

3.2 Macro tests

3.2.1 Preamble

```

378 \*test2)
379 \catcode`\{=1 %
380 \catcode`\}=2 %
381 \catcode`\#=6 %
382 \catcode`\^=7 %
383 \font\rmfont=ec-lmtt10\relax
384 \rmfont
385 \showboxbreadth=10000 %
386 \showboxdepth=10000 %
387 \errorcontextlines=10000
388 \begingroup\expandafter\expandafter\expandafter\endgroup
389 \expandafter\ifx\csname RequirePackage\endcsname\relax
390 \input rotchiffre.sty\relax
391 \else
392 \RequirePackage{rotchiffre}[2016/05/16]%
393 \RequirePackage{ifluatex}[2010/03/01]%
394 \RequirePackage{ifxetex}[2010/09/12]%
395 \fi
396 \catcode`\@=11 %
397 \begingroup\expandafter\expandafter\expandafter\endgroup
398 \expandafter\ifx\csname @onelevel@sanitize\endcsname\relax
399 \begingroup\expandafter\expandafter\expandafter\endgroup
400 \expandafter\ifx\csname detokenize\endcsname\relax
401 \def\strip@prefix#1->{%
402 \def\@onelevel@sanitize#1{%
403 \edef#1{%
404 \expandafter\strip@prefix\meaning#1%
405 }%
406 }%
407 \else
408 \def\@onelevel@sanitize#1{%
409 \edef#1{%
410 \detokenize\expandafter{#1}%
411 }%
412 }%
413 \fi
414 \fi
415 \def\msg#\{\immediate\write16}
416 \def\empty{}
417 \begingroup
418 \def\x#1{%
419 \def\space{#1}%
420 \def\spacesII{#1#1}%
421 \def\spacesIII{#1#1#1}%
422 \def\spacesIV{#1#1#1#1}%

```

```

423 }%
424 \expandafter\endgroup\x{ }
425 \def\PrintStr#1#2{%
426   \begingroup
427     \@onelevel@sanitize#2%
428     \msg{#1: [#2]}% hash-ok
429   \endgroup
430 }
431 \def\CheckResult{%
432   \PrintStr{Result}\StrResult
433   \ifx\StrExpect\StrResult
434     \msg{==> Ok}%
435   \else
436     \begingroup
437     \edef\x{\endgroup
438       \errmessage{Test failed (\chiffre)!}%
439     }\x
440   \fi
441 }
442 \long\def\test#1#2{%
443   \msg{ }%
444   \begingroup
445     \setbox0=\hbox{%
446       \edef\StrInput{#1}%
447       \@onelevel@sanitize\StrInput
448       \PrintStr{ Input}\StrInput
449       \edef\StrExpect{#2}%
450       \@onelevel@sanitize\StrExpect
451       \PrintStr{Expect}\StrExpect
452       \action{#1}%
453       \CheckResult
454     }%
455     \ifdim\wd0=0pt %
456     \else
457       \showbox0 %
458     \fi
459   \endgroup
460 }
461 \def\cmd#1{%
462   \msg{* CMD: ROT#1}%
463   \def\chiffre{ROT#1}%
464   \def\action{\EdefRot{#1}\StrResult}%
465 }
466 \def\TestIgnore#1{%
467   \test{#1}{#1}%
468 }
469 \begingroup
470   \lccode`\P=``%
471   \lccode`\B=``%
472   \lccode`\H=``%
473 \lowercase{\endgroup
474   \def\PercentChar{P}%
475   \def\BackslashChar{B}%
476   \def\HashChar{H}%
477 }
478 \def\TestI{%
479   \TestIgnore{%
480     \space!"\HashChar$\PercentChar&'()*+,-./%

```

```

481      :;<=>?@%
482      [\BackslashChar]^_`%
483      \string{|\string}\string~%
484    }%
485  }
486 \begingroup
487   \catcode0=12 %
488   \lccode`A=1 %
489   \lccode`B=2 %
490   \lccode`C=3 %
491   \lccode`D=4 %
492   \lccode`E=5 %
493   \lccode`F=6 %
494   \lccode`G=7 %
495   \lccode`H=8 %
496   \lccode`I=9 %
497   \lccode`J=10 %
498   \lccode`K=11 %
499   \lccode`L=12 %
500   \lccode`M=13 %
501   \lccode`N=14 %
502   \lccode`O=15 %
503   \lccode`P=16 %
504   \lccode`Q=17 %
505   \lccode`R=18 %
506   \lccode`S=19 %
507   \lccode`T=20 %
508   \lccode`U=21 %
509   \lccode`V=22 %
510   \lccode`W=23 %
511   \lccode`X=24 %
512   \lccode`Y=25 %
513   \lccode`Z=26 %
514   \lccode`a=27 %
515   \lccode`b=28 %
516   \lccode`c=29 %
517   \lccode`d=30 %
518   \lccode`e=31 %
519   \lccode`f=127 %
520   \lccode`g=128 %
521   \lccode`h=129 %
522   \lccode`y=254 %
523   \lccode`z=255 %
524 \lowercase{\endgroup
525   \def\TestC{%
526     \TestIgnore{%
527       ^^@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz%
528     }%
529   }%
530   \def\TestZ{%
531     \TestIgnore{^^@}%
532   }%
533 }

```

3.2.2 ROT13

```

534 \cmd{13}
535 \test{%
536   0123456789%

```

```

537  ABCDEFGHIJKLMNOPQRSTUVWXYZ%
538  abcdefghijklmnopqrstuvwxyz%
539  }{%
540  0123456789%
541  NOPQRSTUVWXYZABCDEFGHIJKLM%
542  nopqrstuvwxyzabcdefghijklmnop%
543  }
544  \TestI
545  \TestC
546  \test{}{}
547  \test{A}{N}
548  \test{N}{A}
549  \test{ }{ }
550  \test{0a}{0n}
551  \test{\spacesIV}{\spacesIV}
552  \test{{}}{}}
553  \test{\par}{\noexpand\cne}

```

3.2.3 ROT5

```

554  \cmd{5}
555  \test{%
556  0123456789%
557  ABCDEFGHIJKLMNOPQRSTUVWXYZ%
558  abcdefghijklmnopqrstuvwxyz%
559  }{%
560  5678901234%
561  ABCDEFGHIJKLMNOPQRSTUVWXYZ%
562  abcdefghijklmnopqrstuvwxyz%
563  }
564  \TestI
565  \TestC

```

3.2.4 ROT18

```

566  \cmd{18}
567  \test{%
568  ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789%
569  abcdefghijklmnopqrstuvwxyz%
570  }{%
571  STUVWXYZ0123456789ABCDEFGHIJKLMNQR%
572  nopqrstuvwxyzabcdefghijklmnop%
573  }
574  \TestI
575  \TestC

```

3.2.5 ROT47

```

576  \cmd{47}
577  \test{%
578  !"\HashChar$\PercentChar&'()*+,-./%
579  0123456789%
580  :;<=>?@%
581  ABCDEFGHIJKLMNOPQRSTUVWXYZ%
582  [\BackslashChar]^_`%
583  abcdefghijklmnopqrstuvwxyz%
584  \string{|\string}\string~%
585  }{%
586  PQRSTUVWXYZ%
587  [\BackslashChar]^_`%
588  abcdefghijklmnopqrstuvwxyz%

```

```

589 \string{|\string}\string~%
590 !"\HashChar$\PercentChar&'()*+,-./%
591 0123456789%
592 :;<=>?@%
593 ABCDEFGHIJKLMNOP%
594 }
595 \TestZ
596 \TestC

3.2.6 Big chars

597 \chardef\temp=0 %
598 \begingroup\expandafter\expandafter\expandafter\endgroup
599 \expandafter\ifx\csname XeTeXrevision\endcsname\relax
600 \begingroup\expandafter\expandafter\expandafter\endgroup
601 \expandafter\ifx\csname RequirePackage\endcsname\relax
602 \input ifluatex.sty\relax
603 \else
604 \RequirePackage{ifluatex}[2010/03/01]%
605 \fi
606 \begingroup\expandafter\expandafter\expandafter\endgroup
607 \expandafter\ifx\csname luatexversion\endcsname\relax
608 \else
609 \chardef\temp=1 %
610 \fi
611 \else
612 \chardef\temp=1 %
613 \fi
614 \ifcase\temp
615 \csname @@end\expandafter\endcsname\expandafter\end
616 \fi

617 \msg{* Big chars}
618 \cmd{5}
619 \test{}{}
620 \test{ }{ }
621 \test{ 0 1 }{ 5 6 }
622 \begingroup
623 \lccode`A=300 %
624 \lccode`B=1000 %
625 \lccode`C=10000 %
626 \lowercase{\endgroup
627 \TestIgnore{ABC}%
628 \TestIgnore{x A By zC xAy AxB}%
629 }%

630 \csname @@end\endcsname\end
631 \test2)

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/rotchiffre.dtx](http://ctan.org/macros/latex/contrib/oberdiek/rotchiffre.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/rotchiffre.pdf](http://ctan.org/macros/latex/contrib/oberdiek/rotchiffre.pdf) Documentation.

¹[CTAN:pkg/rotchiffre](http://ctan.org/pkg/rotchiffre)

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:[install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” (**CTAN:**[tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

4.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps.

4.3 Package installation

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain T_EX:

```
tex rotchiffre.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

<code>rotchiffre.sty</code>	→ <code>tex/generic/oberdiek/rotchiffre.sty</code>
<code>rotchiffre.pdf</code>	→ <code>doc/latex/oberdiek/rotchiffre.pdf</code>
<code>test/rotchiffre-test1.tex</code>	→ <code>doc/latex/oberdiek/test/rotchiffre-test1.tex</code>
<code>test/rotchiffre-test2.tex</code>	→ <code>doc/latex/oberdiek/test/rotchiffre-test2.tex</code>
<code>rotchiffre.dtx</code>	→ <code>source/latex/oberdiek/rotchiffre.dtx</code>

If you have a `docstrip.cfg` that configures and enables `docstrip`’s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

4.4 Refresh file name databases

If your T_EX distribution (teT_EX, mikT_EX, ...) relies on file name databases, you must refresh these. For example, teT_EX users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Unpacking with L^AT_EX. The `.dtx` chooses its action depending on the format:

plain T_EX: Run `docstrip` and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for `docstrip` (really, `docstrip` does not need L^AT_EX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{rotchiffre.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL^AT_EX:

```
pdflatex rotchiffre.dtx
makeindex -s gind.ist rotchiffre.idx
pdflatex rotchiffre.dtx
makeindex -s gind.ist rotchiffre.idx
pdflatex rotchiffre.dtx
```

5 References

- [1] Stephan Hennig et. al.: *fontspec: no ligatures with Times New Roman*; newsgroup [comp.text.tex](https://groups.google.com/group/comp.text.tex), [news:4cdbed27\\$0\\$6765\\$9b4e6d93@newsspool3.arcor-online.net](https://groups.google.com/group/comp.text.tex/browse_thread/thread/6266f98e998ce333/d7b32e9dcc610c87), 2010-11-11.
- [2] Stephan Hennig: *Re: fontspec: no ligatures with Times New Roman*; newsgroup [comp.text.tex](https://groups.google.com/group/comp.text.tex), [news:4cdc2abe\\$0\\$6762\\$9b4e6d93@newsspool3.arcor-online.net](https://groups.google.com/group/comp.text.tex/msg/d7b32e9dcc610c87), 2010-11-11.
- [3] Robin Fairbairns: *Re: fontspec: no ligatures with Times New Roman*; newsgroup [comp.text.tex](https://groups.google.com/group/comp.text.tex), [news:qf4obmua0v.fsf@sxp10.cl.cam.ac.uk](https://groups.google.com/group/comp.text.tex/msg/7c03e91407144704), 2010-11-12.
- [4] Wikipedia/German: *ROT13*; 2010-10-26.
<https://de.wikipedia.org/wiki/ROT13>
- [5] Wikipedia/English: *ROT13*; 2010-11-11.
<https://en.wikipedia.org/wiki/ROT13>
- [6] Computerfreak/German: *ROT-18*; 2010-04-12.
<http://www.compufreak.info/2010/04/12/rot-18/>
- [7] Wikipedia/English: *The quick brown fox jumps over the lazy dog*; 2010-11-09.
https://en.wikipedia.org/wiki/The_quick_brown_fox_jumps_over_the_lazy_dog

6 History

[2010/11/12 v1.0]

- First version.

[2016/05/16 v1.1]

- Documentation updates.

7 Index

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