

1 Test Hyperref-safe implementation of Greek numerals

Every number is set in 4 versions:

1: lowercase Babel, 2: lowercase Hyperref-patched,

3: uppercase Babel, 4: uppercase Hyperref-patched,

single numerals

1-5 α' α' A' A' β' β' B' B' γ' γ' Γ' Γ' δ' δ' Δ' Δ' ε' ε' E' E'

6-9 ζ' ζ' Ζ' Ζ' η' η' Η' Η' θ' θ' Θ' Θ'

10-50 ι' ι' Ι' Ι' κ' κ' Κ' Κ' λ' λ' Λ' Λ' μ' μ' Μ' Μ' ν' ν' Ν' Ν'

60-90 ξ' ξ' Ξ' Ξ' ο' ο' Ο' Ο' π' π' Π' Π' ς' ς' Ϛ' Ϛ'

100-500 ρ' ρ' Ρ' Ρ' σ' σ' Σ' Σ' τ' τ' Τ' Τ' υ' υ' Υ' Υ' φ' φ' Φ' Φ'

600-900 χ' χ' Χ' Χ' ψ' ψ' Ψ' Ψ' ω' ω' Ω' Ω' ϳ' ϳ' ϴ' ϴ'

1000-5000 ,α ,α ,Α ,Α ,β ,β ,Β ,Β ,γ ,γ ,Γ ,Γ ,δ ,δ ,Δ ,Δ ,ε ,ε ,Ε ,Ε

6000-9000 ,ς ,ς ,Σ ,Σ ,ζ ,ζ ,Ζ ,Ζ ,η ,η ,Η ,Η ,θ ,θ ,Θ ,Θ

10 000 - 900 000 ,ι ,ι ,Ι ,Ι ,κ ,κ ,Κ ,Κ ,ω ,ω ,Ω ,Ω ,ϳ ,ϳ ,ϴ ,ϴ

compound numbers

123-323 ρκγ' ρκγ' ΡΚΓ' ΡΚΓ' σκγ' σκγ' ΣΚΓ' ΣΚΓ' τκγ' τκγ' ΤΚΓ' ΤΚΓ'

445-645 υμε' υμε' ΥΜΕ' ΥΜΕ' φμε' φμε' ΦΜΕ' ΦΜΕ' χμε' χμε' ΧΜΕ'

ΧΜΕ'

767-967 ψξζ' ψξζ' ΨΞΖ' ΨΞΖ' ωξζ' ωξζ' ΩΞΖ' ΩΞΖ' ϳξζ' ϳξζ' ϴΞΖ' ϴΞΖ'

967021 ,ρ,ξ,ζκ' ,ρ,ξ,ζκ' ,Ρ,Ξ,ΖΚΑ' ,Ρ,Ξ,ΖΚΑ'

outside of bounds

Negative and zero -1 0

Too large: 1000000

Discussion The new implementation gives identical results.

2 Greek numerals in PDF bookmarks

3 α' α' Α' Α' 4' 4' 4' 4' σ' σ' Σ' Σ'

4 ,α ,α ,Α ,Α ,4 ,4 ,4 ,4 ,σ ,σ ,Σ ,Σ

5 κδ' κδ' ΚΔ' ΚΔ' 4ς' 4ς' 4ς' 4ς'

6 4ς' 4ς' 4ς' 4ς' σξγ' σξγ' ΣΞΓ' ΣΞΓ'

7 ,δχ4ε' ,δχ4ε' ,ΔΧ4Ε' ,ΔΧ4Ε'

8 Original numeral: ,ασ4γ'

Babels original lower case version works fine in text. However, use in a section heading results in spurious numeral marks (dexia keraia) in the PDF bookmark. and the warning

```
Package hyperref Warning: Token not allowed in a PDF string (Unicode):  
(hyperref) removing ` \@ifnextchar' on input line 353.
```

The upper case version fails because MakeUppercase is not defined for PDFstrings.

9 Macro upcasing

Alternative approach:

Use a partial implementation of MakeUppercase to transform the LICR macros relying on the "uclclist"

This works fine in text:

```
123, 323 ρκγ' ρκγ' ΡΚΓ' ΡΚΓ' τκγ' τκγ' ΤΚΓ' ΤΚΓ'  
445, 695 υμε' υμε' ΥΜΕ' ΥΜΕ' χ4ε' χ4ε' Χ4Ε' Χ4Ε'  
767, 967 ψξζ' ψξζ' ΨΞΖ' ΨΞΖ' 4ξζ' 4ξζ' 4ΞΖ' 4ΞΖ'
```

However, use in a section heading results in another error:

```
! Use of \\bookmark doesn't match its definition.
```