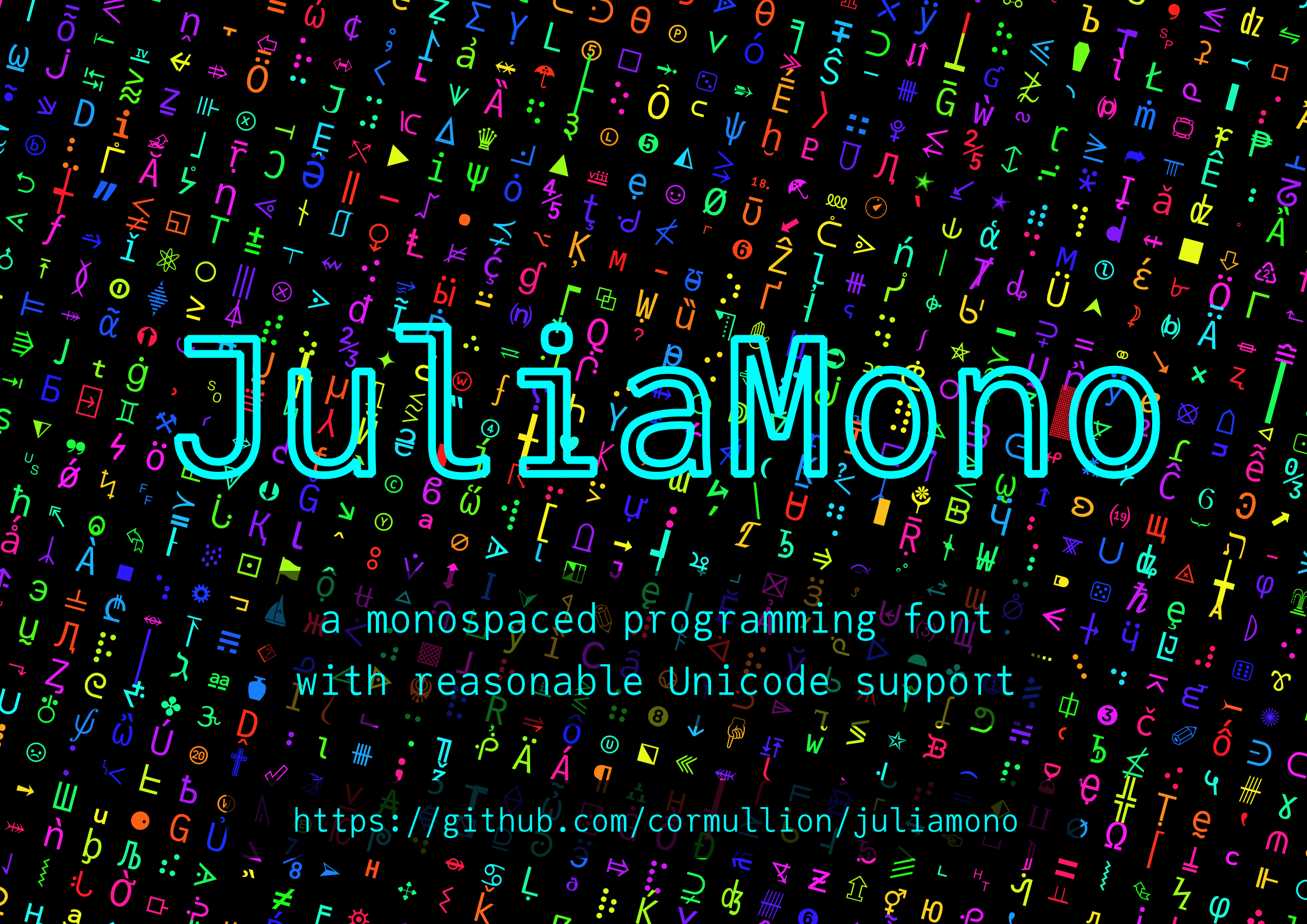
JuliaMono
a monospaced programming font
with reasonable Unicode support
https://github.com/cormullion/juliamono

JuliaMono Light

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

JuliaMono Regular

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

JuliaMono Medium

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

JuliaMono Bold

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

JuliaMono ExtraBold

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

JuliaMono Black

abcdefghijklmnopqrstuvwxyz 12345
ABCDEFGHIJKLMNOPQRSTUVWXYZ 67890
{}[]()<>$*-+=/#_%^@\&|~?'"`!,.;:

```julia
function _nloops(N::Int, itersym::Symbol, rangeexpr::Expr, args::Expr...)
    if rangeexpr.head !== :->
        throw(ArgumentError("second argument must be an anonymous function expression to compute the range"))
    end
    if !(1 <= length(args) <= 3)
        throw(ArgumentError("number of arguments must be 1 ≤ length(args) ≤ 3, got $nargs"))
    end
    body = args[end]
    ex = Expr(:escape, body)
    for dim = 1:N
        itervar = inlineanonymous(itersym, dim)
        rng = inlineanonymous(rangeexpr, dim)
        preexpr = length(args) > 1 ? inlineanonymous(args[1], dim) : (:(nothing))
        postexpr = length(args) > 2 ? inlineanonymous(args[2], dim) : (:(nothing))
        ex = quote
            for $(esc(itervar)) = $(esc(rng))
                $(esc(preexpr))
                $ex
                $(esc(postexpr))
            end
        end
    end
    ex
end
```


```julia
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                $(esc(preexpr))
                $ex
                $(esc(postexpr))
            end
        end
    end
    ex
end
```
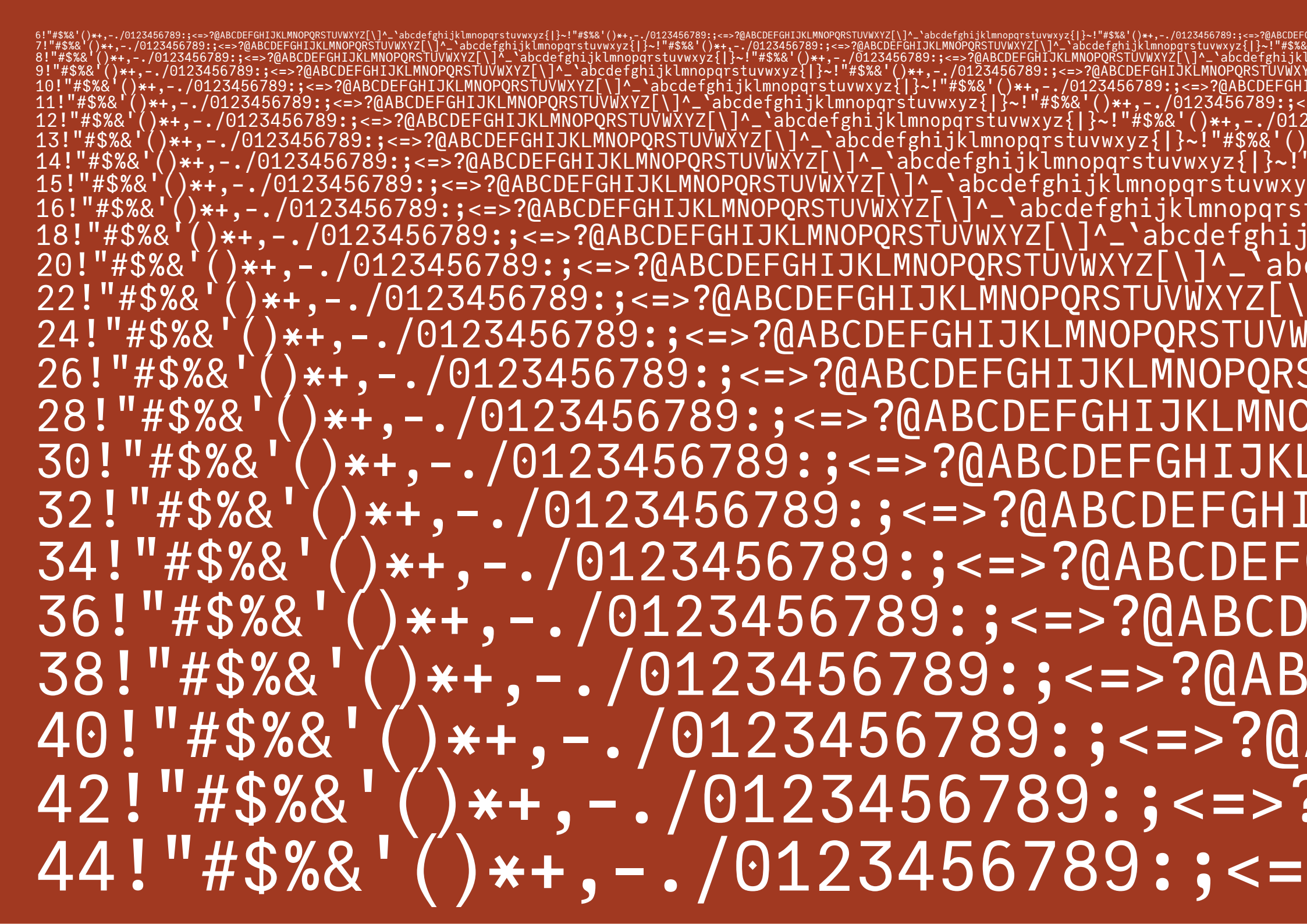


6!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEF
7!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&
8!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijkl
9!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXY
10!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHI
11!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./0123456789:;<
12!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()*+,-./012
13!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"#$%&'()
14!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~!"
15!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxy
16!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrs
18!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghij
20!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`ab
22!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\
24!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVW
26!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRS
28!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO
30!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKL
32!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHI
34!"#$%&'()*+,-./0123456789:;<=>?@ABCDEF
36!"#$%&'()*+,-./0123456789:;<=>?@ABCD
38!"#$%&'()*+,-./0123456789:;<=>?@AB
40!"#$%&'()*+,-./0123456789:;<=>?@
42!"#$%&'()*+,-./0123456789:;<=>
44!"#$%&'()*+,-./0123456789:;<=

Ancient Greek Ἄδμηθ’, ὁρᾷς γὰρ τἀμὰ πράγμαθ’ ὡς ἔχει, λέξαι θέλω σοι πρὶν θανεῖν ἃ βούλομαι.

Bulgarian Я, пазачът Вальо уж бди, а скришом хапва кюфтенца зад щайгите.

Catalan «Dóna amor que seràs feliç!». Això, il·lús company geniüt, ja és un lluït rètol blavís d’onze kWh.

Czech Zvlášť zákeřný učeň s ďolíčky běží podél zóny úlů

Danish Quizdeltagerne spiste jordbær med fløde, mens cirkusklovnen Walther spillede på xylofon.

English Sphinx of black quartz, judge my vow.

Estonian Põdur Zagrebi tšellomängija-följetonist Ciqo külmetas kehvas garaažis

Finnish Charles Darwin jammaili Åken hevixylofonilla Qatarin yöpub Zeligissä.

French Voix ambiguë d’un cœur qui au zéphyr préfère les jattes de kiwi.

German Victor jagt zwölf Boxkämpfer quer über den großen Sylter Deich.

Greek Ταχίστη αλώπηξ βαφής ψημένη γη, δρασκελίζει υπέρ νωθρού κυνός.

Guarani Hĩlandiagua kuñanguéra oho peteĩ sa’yju ypa’ũme Gavõme ombo’e hagua ingyleñe’ẽ mitãnguérare ne’ẽndy’ỹ.

Hungarian Jó foxim és don Quijote húszwattos lámpánál ülve egy pár bűvös cipőt készít.

IPA [ɢʷɯʔ.nas.doːŋ.kʰlja] [ŋan.ɳʐɨwo.ɕiuěn.ɣwa]

Icelandic Kæmi ný öxi hér, ykist þjófum nú bæði víl og ádrepa.

Irish Ċuaiġ bé ṁórśáċ le dlúṫspád fíorḟinn trí hata mo ḋea-ṗorcáin ḃig.

Latvian Muļķa hipģi mēģina brīvi nogaršot celofāna žņaudzējčūsku.

Lithuanian Įlinkdama fechtuotojo špaga sublykčiojusi pragręžė apvalų arbūzą.

Macedonian Сидарски пејзаж: шугав билмез со чудење џвака ќофте и кељ на туѓ цех.

Norwegian Jeg begynte å fortære en sandwich mens jeg kjørte taxi på vei til quiz

Polish Pchnąć w tę łódź jeża lub ośm skrzyń fig.

Portuguese Luís argüia à Júlia que «brações, fé, chá, óxido, pôr, zângão» eram palavras do português.

Romanian Înjurând pițigăiat, zoofobul comandă vexat whisky și tequila.

Russian Широкая электрификация южных губерний даст мощный толчок подъёму сельского хозяйства.

Scottish Mus d’fhàg Cèit-Ùna ròp Ì le ob.

Serbian Ајшо, лепото и чежњо, за љубав срца мога дођи у Хаџиће на кафу.

Spanish Benjamín pidió una bebida de kiwi y fresa; Noé, sin vergüenza, la más champaña del menú.

Swedish Flygande bäckasiner söka hwila på mjuka tuvor.

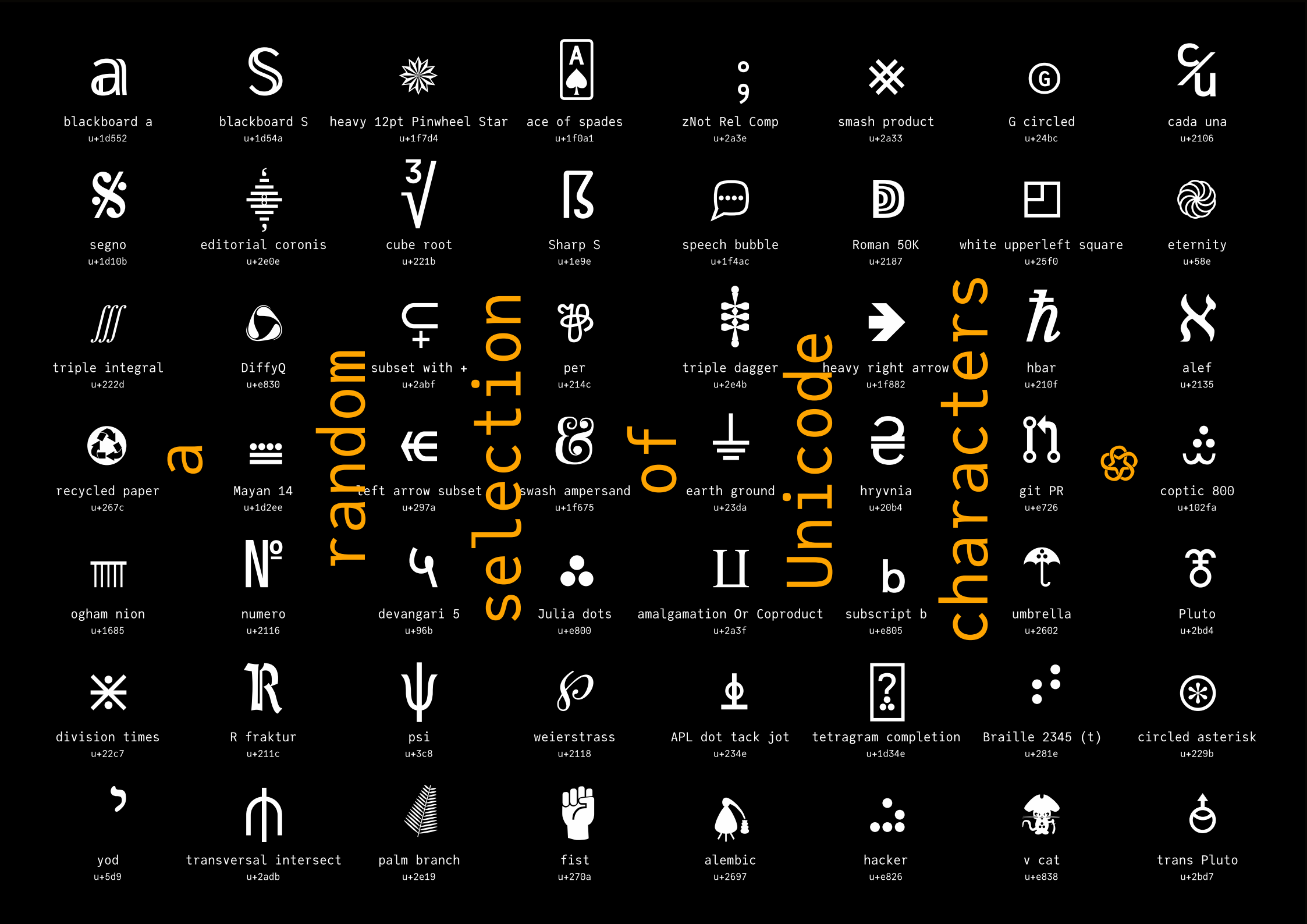
Turkish Pijamalı hasta yağız şoföre çabucak güvendi.

Ukrainian Чуєш їх, доцю, га? Кумедна ж ти, прощайся без ґольфів!

yotta	Y	10^{24}	1 000 000 000 000 000 000 000 000	septillion
zetta	Z	10^{21}	1 000 000 000 000 000 000 000	sextillion
exa	E	10^{18}	1 000 000 000 000 000 000	quintillion
peta	P	10^{15}	1 000 000 000 000 000	quadrillion
tera	T	10^{12}	1 000 000 000 000	trillion
giga	G	10^{9}	1 000 000 000	billion
mega	M	10^{6}	1 000 000	million
kilo	k	10^{3}	1 000	thousand
hecto	h	10^{2}	100	hundred
deca	da	10^{1}	10	ten
deci	d	10^{-1}	0.1	tenth
centi	c	10^{-2}	0.01	hundredth
milli	m	10^{-3}	0.001	thousandth
micro	μ	10^{-6}	0.000 001	millionth
nano	n	10^{-9}	0.000 000 001	billionth
pico	p	10^{-12}	0.000 000 000 001	trillionth
femto	f	10^{-15}	0.000 000 000 000 001	quadrillionth
atto	a	10^{-18}	0.000 000 000 000 000 001	quintillionth
zepto	z	10^{-21}	0.000 000 000 000 000 000 001	sextillionth
yocto	y	10^{-24}	0.000 000 000 000 000 000 000 001	septillionth

classical electron radius	r_e	$2.817940285\times10^{-15}$
Compton wavelength of the electron	λ_c	$2.426310215\times10^{-12}$
reduced Compton wavelength of the electron	$\lambda\!\!\!^{-}_c$	$3.8615926764\times10^{-13}$
Bohr radius of the hydrogen atom	a_0	$5.291772083\times10^{-11}$
natural units based on the electronvolt	$1\ eV^{-1}$	1.97×10^{-7}
reduced wavelength of hydrogen radiation	$1/R_\infty$	$9.112670505509\times10^{-8}$
Planck length	ℓ_p	1.616199×10^{-35}
Stoney unit of length	l_s	1.381×10^{-35}
quantum chromodynamics (QCD) unit of length	l_{qcd}	2.103×10^{-16}

	mm		inches		points	
	w	h	w	h	w	h
A0	841	1189	33.11	46.81	2384	3370
A1	594	841	23.39	33.11	1684	2384
A2	420	594	16.54	23.39	1190	1684
A3	297	420	11.69	16.54	842	1190
A4	210	297	8.27	11.69	595	842
A5	148	210	5.83	8.27	420	595
A6	105	148	4.13	5.83	298	420
A7	74	105	2.91	4.13	210	298
A8	52	74	2.05	2.91	148	210
Letter (ANSI A)	215.9	279.4	8.5	11	612	792
Legal	215.9	355.6	8.5	14	612	1008
Ledger (ANSI B)	279.4	431.8	11	17	792	1224
Tabloid (ANSI B)	431.8	279.4	17	11	1224	792
Executive	184.1	266.7	7.25	10.55	522	756
ANSI C	559	432	22	17	1584	1224
ANSI D	864	559	34	22	2448	1584
ANSI E	1118	864	44	34	3168	2448
Foolscap	336	419	13.25	16.5	954	1188
Small Post	368	469	14.5	18.5	1044	1332
Sheet and 1/3 cap	336	588	13.25	22	954	1584
Sheet and 1/2 cap	336	628	13.25	24.75	954	1782
Demy	394	507	15.5	20	1116	1440
Large Post	419	533	16.5	21	1188	1512
Small medium	444	558	17.5	22	1260	1584
Medium	457	584	18	23	1296	1656
Small Royal	482	609	19	24	1368	1728
Royal	507	634	20	25	1440	1800
Imperial	559	761	22	30	1584	2160


a random selection of Unicode characters
blackboard a
u+1d552
blackboard S
u+1d54a
heavy 12pt Pinwheel Star
u+1f7d4
ace of spades
u+1f0a1
zNot Rel Comp
u+2a3e
smash product
u+2a33
G circled
u+24bc
cada una
u+2106
segno
u+1d10b
editorial coronis
u+2e0e
cube root
u+221b
Sharp S
u+1e9e
speech bubble
u+1f4ac
Roman 50K
u+2187
white upperleft square
u+25f0
eternity
u+58e
triple integral
u+222d
DiffyQ
u+e830
subset with +
u+2abf
per
u+214c
triple dagger
u+2e4b
heavy right arrow
u+1f882
hbar
u+210f
alef
u+2135
recycled paper
u+267c
Mayan 14
u+1d2ee
left arrow subset
u+297a
swash ampersand
u+1f675
earth ground
u+23da
hryvnia
u+20b4
git PR
u+e726
coptic 800
u+102fa
ogham nion
u+1685
numero
u+2116
devangari 5
u+96b
Julia dots
u+e800
amalgamation Or Coproduct
u+2a3f
subscript b
u+e805
umbrella
u+2602
Pluto
u+2bd4
division times
u+22c7
R fraktur
u+211c
psi
u+3c8
weierstrass
u+2118
APL dot tack jot
u+234e
tetragram completion
u+1d34e
Braille 2345 (t)
u+281e
circled asterisk
u+229b
yod
u+5d9
transversal intersect
u+2adb
palm branch
u+2e19
fist
u+270a
alembic
u+2697
hacker
u+e826
v cat
u+e838
trans Pluto
u+2bd7

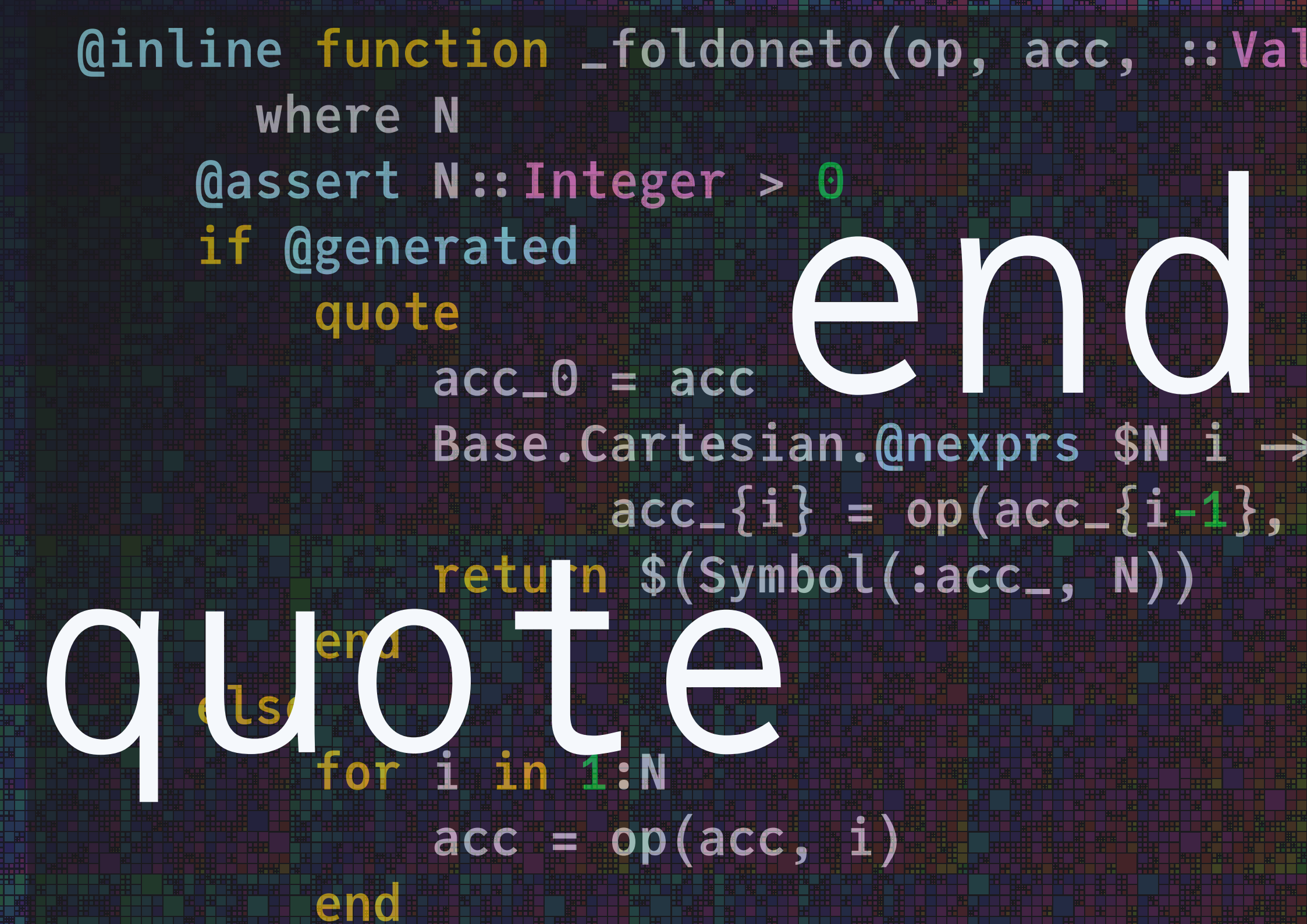
contextual alternates

off	on
->	→
=>	⇒
|>	▷
<|	◁
::	::

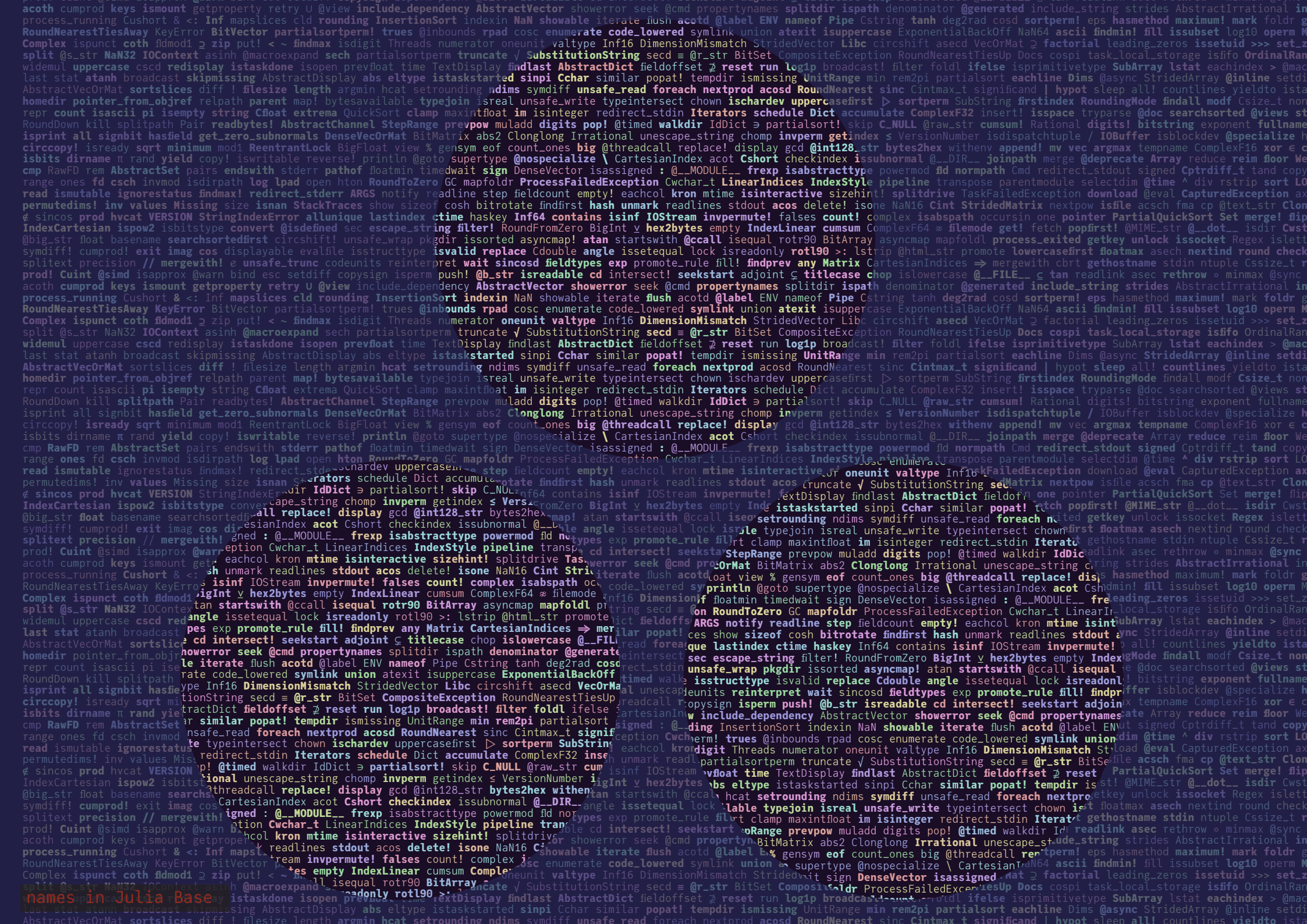
stylistic sets

zero	0	0	slashed zero
ss01	g	g	alternate g
ss02	@	@	alternate @
ss03	j	j	alternate j
ss04	0	0	alternate 0
ss05	*	⋆	lighter asterisk
ss06	a	ɑ	simple a
ss07	`	`	smaller grave
ss08	->	→	distinct ligatures
ss09	f	f	alternate f
ss10	r	r	alternate r
ss11	`	`	thinner grave

```
45  @inline function ntuple(f::F, ::Val{N}) where {F,N}
46      N::Int
47      (N >= 0) || throw(ArgumentError(string("tuple length should be ≥ 0, got ", N)))
48      if @generated
49          quote
50              @nexprs $N i -> t_i = f(i)
51              @ncall $N tuple t
52          end
53      else
54          Tuple(f(i) for i = 1:N)
55      end
56  end
57
58  @inline function fill_to_length(t::Tuple, val, ::Val{_N}) where {_N}
59      M = length(t)
60      N = _N::Int
61      M > N && throw(ArgumentError("input tuple of length $M, requested $N"))
62      if @generated
63          quote
64              (t..., $(fill(:val, (_N::Int) - length(t.parameters))...))
65          end
66      else
```


@inline function _foldoneto(op, acc, ::Val
where N
@assert N::Integer > 0
if @generated
quote
acc_0 = acc
Base.Cartesian.@nexprs $N i →
acc_{i} = op(acc_{i-1},
return $(Symbol(:acc_, N))
end
else
for i in 1:N
acc = op(acc, i)
end
end
quote
end


cpu
Menu
mode:full
08:38:52
BAT■ 97%
+ 2000ms -
i5-3210M
1.2 GHz
CPU 9% 62°C
C1 12% 62°C
C2 7% 59°C
C3 5% 62°C
C4 14% 59°C
Load AVG: 0.21 0.13 0.16
up 1 day, 18:51
mem
graph
disks
swap
Total: 7.68 GiB
Used: 1.69 GiB
22%
Available: 5.99 GiB
78%
Cached: 1.79 GiB
23%
Free: 4.43 GiB
58%
dhcp 117 GiB
Used: 18% 19.7 GiB
Free: 82% 91.3 GiB
swap 1.99 GiB
Used: 0% 0 Byte
Free:100% 1.99 GiB
efi 510 MiB
Used: 6% 31.6 MiB
Free: 94% 479 MiB
net
sync
auto
zero
<b enp1s0f0 n>
10K
23K
Download
▼ 205 Byte/s (1.60 Kibps)
▲ 228 Byte/s (1.78 Kibps)
Upload
proc
filter
per-core
reverse
tree
< cpu responsive >
Tree:
Threads: User: MemB Cpu% ↑
[-]-1 systemd (init) 1 root 9M 0.0
354 systemd-journald 1 root 114M 0.0
376 systemd-udevd 1 root 6M 0.0
915 systemd-resolved 1 systemd-+ 6M 0.0
916 systemd-timesyncd 2 62583 3M 0.0
953 boltd 3 root 7M 0.0
954 acpid 1 root 848K 0.0
956 udisksd 5 root 12M 0.0
958 cron 1 root 3M 0.0
959 systemd-logind 1 root 6M 0.0
961 dbus-daemon 1 messageb+ 6M 0.0
[-]-997 NetworkManager 3 root 16M 0.0
1153 dhclient 1 root 6M 0.0
998 networkd-dispat 2 root 17M 0.0
999 thermald 2 root 9M 0.0
1000 rsyslogd 4 syslog 5M 0.0 ↓
↑ select ↓
info
terminate
kill
interrupt
0/209
bpytop ubuntu


names in Julia Base

The title of the painting, which is known in English as Mona Lisa, comes from a description by Renaissance art historian Giorgio Vasari, who wrote “Leonardo undertook to paint, for Francesco del Giocondo, the portrait of Mona Lisa, his wife.” Mona in Italian is a polite form of address originating as ma donna – similar to Ma'am, Madam, or my lady in English. This became madonna, and its contraction mona. The title of the painting, though traditionally spelled Mona (as used by Vasari), is also commonly spelled in modern Italian as Monna Lisa (mona being a vulgarity in some Italian dialects), but this is rare in English. Vasari's account of the Mona Lisa comes from his biography of Leonardo published in 1550, 31 years after the artist's death. It has long been the best-known source of information on the provenance of the work and identity of the sitter. Leonardo's assistant Salaì, at his death in 1524, owned a portrait which in his personal papers was named la Gioconda, a painting bequeathed to him by Leonardo. That Leonardo painted such a work, and its date, were confirmed in 2005 when a scholar at Heidelberg University discovered a marginal note in a 1477 printing of a volume by ancient Roman philosopher Cicero. Dated October 1503, the note was written by Leonardo's contemporary Agostino Vespucci. This note likens Leonardo to renowned Greek painter Apelles, who is mentioned in the text, and states that Leonardo was at that time working on a painting of Lisa del Giocondo. In response to the announcement of the discovery of this document, Vincent Delieuvin, the Louvre representative, stated “Leonardo da Vinci was painting, in 1503, the portrait of a Florentine lady by the name of Lisa del Giocondo. About this we are now certain. Unfortunately, we cannot be absolutely certain that this portrait of Lisa del Giocondo is the painting of the Louvre.” The model, Lisa del Giocondo, was a member of the Gherardini family of Florence and Tuscany, and the wife of wealthy Florentine silk merchant Francesco del Giocondo. The painting is thought to have been commissioned for their new home, and to celebrate the birth of their second son, Andrea. The Italian name for the painting, La Gioconda, means ‘jocund’ (‘happy’ or ‘jovial’) or, literally, ‘the jocund one’, a pun on the feminine form of Lisa's married name, Giocondo. In French, the title La Joconde has the same meaning. Before that discovery, scholars had developed several alternative views as to the subject of the painting. Some argued that Lisa del Giocondo was the subject of a different portrait, identifying at least four other paintings as the Mona Lisa referred to by Vasari. Several other women have been proposed as the subject of the painting. Isabella of Aragon, Cecilia Gallerani, Costanza d'Avalos, Duchess of Francavilla, Isabella d'Este, Pacifica Brandano or Brandino, Isabela Gualanda, Caterina Sforza, Bianca Giovanna Sforza–even Salaì and Leonardo himself–are all among the list of posited models portrayed in the painting. The consensus of art historians in the 21st century maintains the long-held traditional opinion that the painting depicts Lisa del Giocondo. History: Leonardo da Vinci had begun working on a portrait of Lisa del Giocondo, the model of the Mona Lisa, by October 1503. It is believed by some that the Mona Lisa was begun in 1503 or 1504 in Florence. Although the Louvre states that it was “doubtless painted between 1503 and 1506”, art historian Martin Kemp says that there are some difficulties in confirming the dates with certainty. In addition, many Leonardo experts, such as Carlo Pedretti and Alessandro Vezzosi, are of the opinion that the painting is characteristic of Leonardo's style in the final years of his life, post-1513. Other academics argue that, given the historical documentation, Leonardo would have painted the work from 1513. According to Vasari, “after he had lingered over it four years, left it unfinished”. In 1516, Leonardo was invited by King Francis I to work at the Clos Lucé near the Château d'Amboise; it is believed that he took the Mona Lisa with him and continued to work on it after he moved to France. Art historian Carmen C. Bambach has concluded that Leonardo probably continued refining the work until 1516 or 1517. Leonardo's right hand was paralytic circa 1517, which

may indicate why he left the Mona Lisa unfinished. Circa 1505, Raphael executed a pen-and-ink sketch, in which the columns flanking the subject are more apparent. Experts universally agree that it is based on Leonardo's portrait. Other later copies of the Mona Lisa, such as those in the National Museum of Art, Architecture and Design and The Walters Art Museum, also display large flanking columns. As a result, it was thought that the Mona Lisa had been trimmed. However, by 1993, Frank Zöllner observed that the painting surface had never been trimmed; this was confirmed through a series of tests in 2004. In view of this, Vincent Delieuvin, curator of 16th-century Italian painting at the Louvre, states that the sketch and these other copies must have been inspired by another version, while Zöllner states that the sketch may be after another Leonardo portrait of the same subject. The record of an October 1517 visit by Louis d'Aragon states that the Mona Lisa was executed for the deceased Giuliano de' Medici, Leonardo's steward at the Belvedere Palace between 1513 and 1516–but this was likely an error. According to Vasari, the painting was created for the model's husband, Francesco del Giocondo. A number of experts have argued that Leonardo made two versions (because of the uncertainty concerning its dating and commissioner, as well as its fate following Leonardo's death in 1519, and the difference of details in Raphael's sketch–which may be explained by the possibility that he made the sketch from memory). The hypothetical first portrait, displaying prominent columns, would have been commissioned by Giocondo circa 1503, and left unfinished in Leonardo's pupil and assistant Salaì's possession until his death in 1524. The second, commissioned by Giuliano de' Medici circa 1513, would have been sold by Salaì to Francis I in 1518 and is the one in the Louvre today. Others believe that there was only one true Mona Lisa, but are divided as to the two aforementioned fates. At some point in the 16th century, a varnish was applied to the painting. It was kept at the Palace of Fontainebleau until Louis XIV moved it to the Palace of Versailles, where it remained until the French Revolution. In 1797, it was put on to permanent display at the Louvre. In the early 21st century, French scientist Pascal Cotte hypothesized a hidden portrait underneath the surface of the painting, circumstantial evidence for which was produced using reflective light technology. The underlying portrait appears to be of a model looking to the side, but lacks the flanking columns drawn by Raphael. Having been given access to the painting by the Louvre in 2004, Cotte spent ten years studying the painting with layer-amplification methods. However, the alleged portrait does not fit with historical descriptions of the painting: both Vasari and Gian Paolo Lomazzo describe the subject as smiling, unlike the subject in Cotte's portrait. Cotte admits that his reconstitution had been carried out only in support of his hypotheses and should not be considered as objective proof of an underlying portrait. Refuge, theft and vandalism After the French Revolution, the painting was moved to the Louvre, but spent a brief period in the bedroom of Napoleon (d. 1821) in the Tuileries Palace. The Mona Lisa was not widely known outside the art world, but in the 1860s, a portion of the French intelligentsia began to hail it as a masterwork of Renaissance painting. During the Franco-Prussian War (1870–1871), the painting was moved from the Louvre to the Brest Arsenal. Vacant wall in the Louvre's Salon Carré after the painting was stolen in 1911 “La Joconde est Retrouvée” (“Mona Lisa is Found”), Le Petit Parisien, 13 December 1913. In 1911, the painting was still not popular among the lay-public. On 21 August 1911, the painting was stolen from the Louvre. The missing painting was first noticed the next day by painter Louis Béroud. After some confusion as to whether the painting was being photographed somewhere, the Louvre was closed for a week for investigation. French poet Guillaume Apollinaire came under suspicion and was arrested and imprisoned. Apollinaire implicated his friend Pablo Picasso, who was brought in for questioning. Both were later exonerated. The real culprit was Louvre employee Vincenzo Peruggia, who had helped construct the painting's glass case. He carried out the theft by entering the building during regular hours, hiding in a broom closet, and walking out with the painting hidden under his coat after the museum had closed. Peruggia was an Italian patriot who believed that Leonardo's painting should have been returned to an Italian museum. Peruggia may have been motivated by an associate whose copies of the original would significantly rise in value after the painting's theft. After having kept the Mona Lisa in his apartment for two years, Peruggia grew impatient and was caught when he attempted to sell it to Giovanni Poggi, director of the Uffizi Gallery in Florence. It was exhibited in the Uffizi Gallery for over two weeks and returned to the Louvre on 4 January 1914. Peruggia served six months in prison for the crime and was hailed for his patriotism in Italy. A year after the theft, Saturday Evening Post journalist Karl Decker met an alleged accomplice named Eduardo de Valfierno, who claimed to have masterminded the theft. Forger Yves Chaudron was to have created ... [text by Wikipedia contributors. “Mona Lisa.” Wikipedia, The Free Encyclopedia.]


!"#$%&'()*+,-./0
123456789:;<=>?@
ABCDEFGHIJKLMNOP
QRSTUVWXYZ[\]^_`
abcdefghijklmnop
qrstuvwxyz{|}~
JuliaMono Light
JuliaMono Regular
JuliaMono Medium
JuliaMono Bold
JuliaMono ExtraBold
JuliaMono Black


base — vim ntuple.jl — 114×51
```
"""
function ntuple(f::F, n::Integer) where F
t = n == 0 ? () :
n == 1 ? (f(1),) :
n == 2 ? (f(1), f(2)) :
n == 3 ? (f(1), f(2), f(3)) :
n == 4 ? (f(1), f(2), f(3), f(4)) :
n == 5 ? (f(1), f(2), f(3), f(4), f(5)) :
n == 6 ? (f(1), f(2), f(3), f(4), f(5), f(6)) :
n == 7 ? (f(1), f(2), f(3), f(4), f(5), f(6), f(7)) :
n == 8 ? (f(1), f(2), f(3), f(4), f(5), f(6), f(7), f(8)) :
n == 9 ? (f(1), f(2), f(3), f(4), f(5), f(6), f(7), f(8), f(9)) :
n == 10 ? (f(1), f(2), f(3), f(4), f(5), f(6), f(7), f(8), f(9), f(10)) :
_ntuple(f, n)
return t
end
function _ntuple(f, n)
@_noinline_meta
(n >= 0) || throw(ArgumentError(string("tuple length should be ≥ 0, got ", N)))
([f(i) for i = 1:n]...,)
end
# inferrable ntuple (enough for bootstrapping)
ntuple(f, ::Val{0}) = ()
ntuple(f, ::Val{1}) = (@_inline_meta; (f(1),))
ntuple(f, ::Val{2}) = (@_inline_meta; (f(1), f(2)))
ntuple(f, ::Val{3}) = (@_inline_meta; (f(1), f(2), f(3)))
#
@inline function ntuple(f::F, ::Val{N}) where {F,N}
N::Int
(N >= 0) || throw(ArgumentError(string("tuple length should be ≥ 0, got ", N)))
if @generated
quote
@nexprs $N i -> t_i = f(i)
@ncall $N tuple t
end
else
Tuple(f(i) for i = 1:N)
end
end
@inline function fill_to_length(t::Tuple, val, ::Val{_N}) where {_N}
M = length(t)
N = _N::Int
NORMAL +2 ~1 -0 ntuple.jl julia utf-8 53% ≡ 38/71 ℓ : 1 ☲ [46]tra…
```

```
# inferrable ntuple (enough for bootstrapping)
ntuple(f, ::Val{0}) = ()
ntuple(f, ::Val{1}) = (@_inline_meta; (f(1),))
ntuple(f, ::Val{2}) = (@_inline_meta; (f(1), f(2)))
ntuple(f, ::Val{3}) = (@_inline_meta; (f(1), f(2), f(3)))

@inline function ntuple(f::F, ::Val{N}) where {F,N}
    N::Int
    (N >= 0) || throw(ArgumentError(string("tuple length should be ≥ 0, got ", N)))
    if @generated
        quote
            @nexprs $N i -> t_i = f(i)
            @ncall $N tuple t
        end
    else
        Tuple(f(i) for i = 1:N)
    end
end

@inline function fill_to_length(t::Tuple, val, ::Val{_N}) where {_N}
    M = length(t)
    N = _N::Int
    M > N && throw(ArgumentError("input tuple of length $M, requested $N"))
    if @generated
        quote
            (t..., $(fill(:val, (_N::Int) - length(t.parameters))...))
```