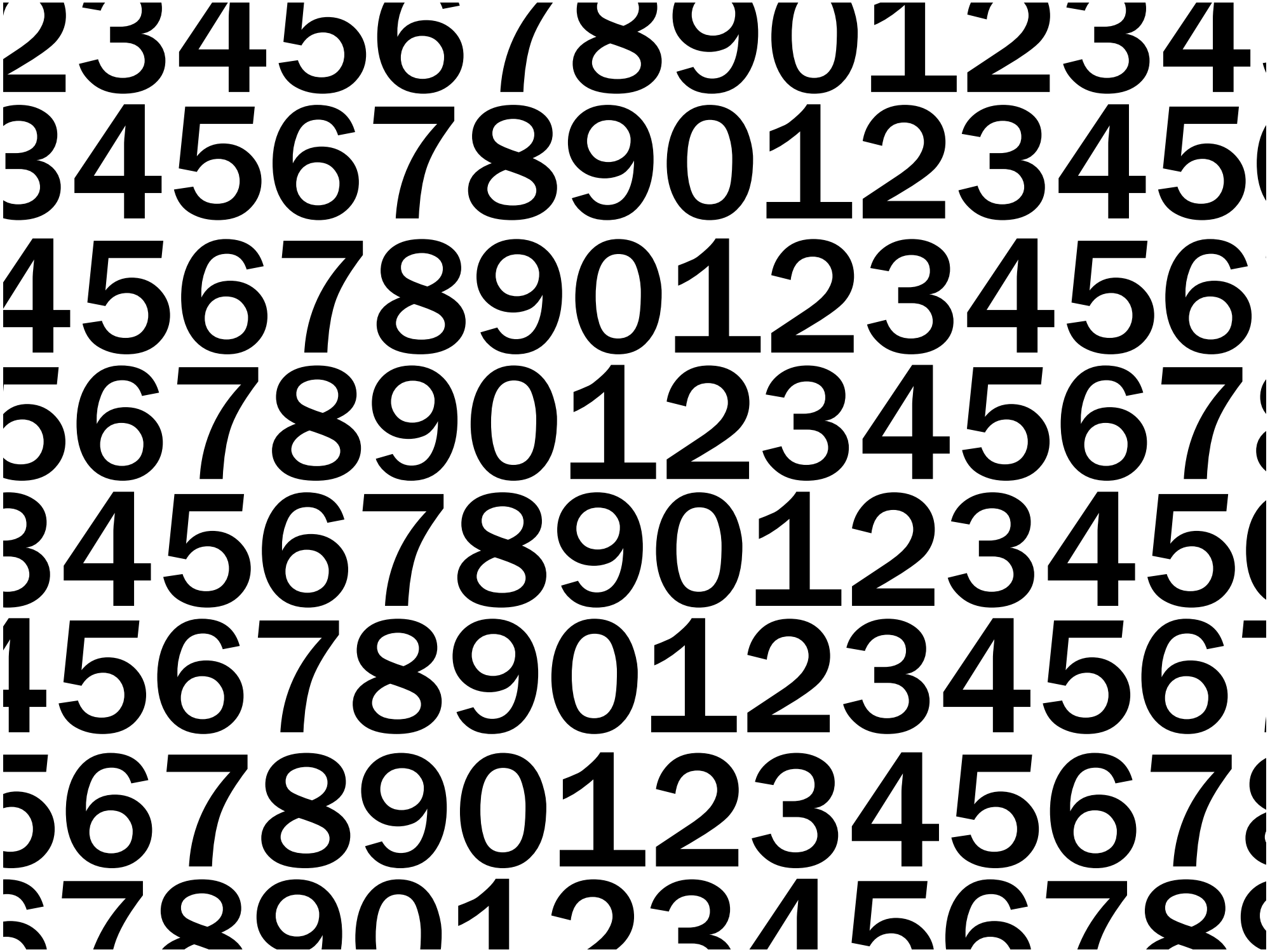
Digital Humanities
Lecture 5
April 12
2024
Mario Verdicchio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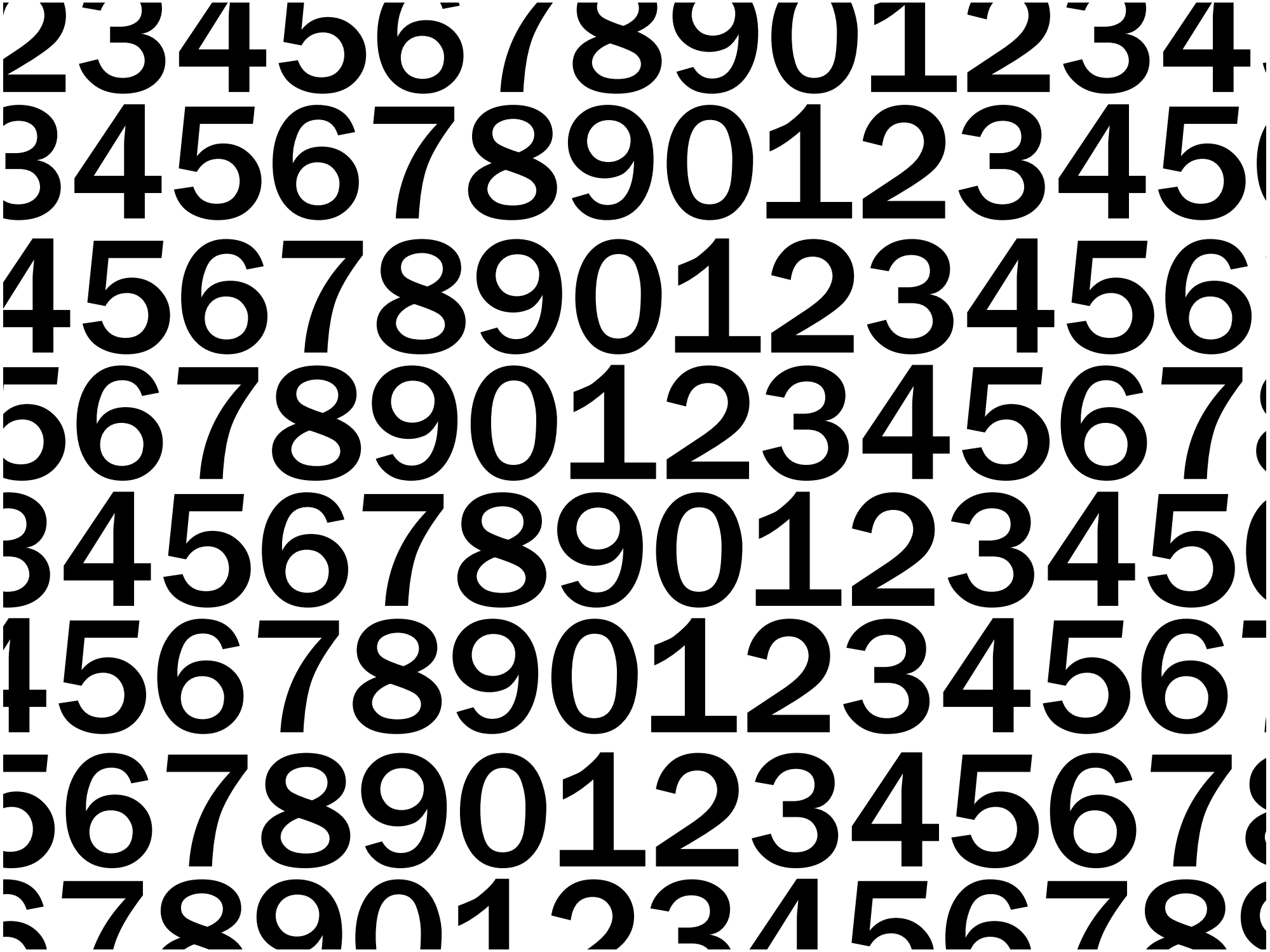
x y r g b
(9,14,245,133,167)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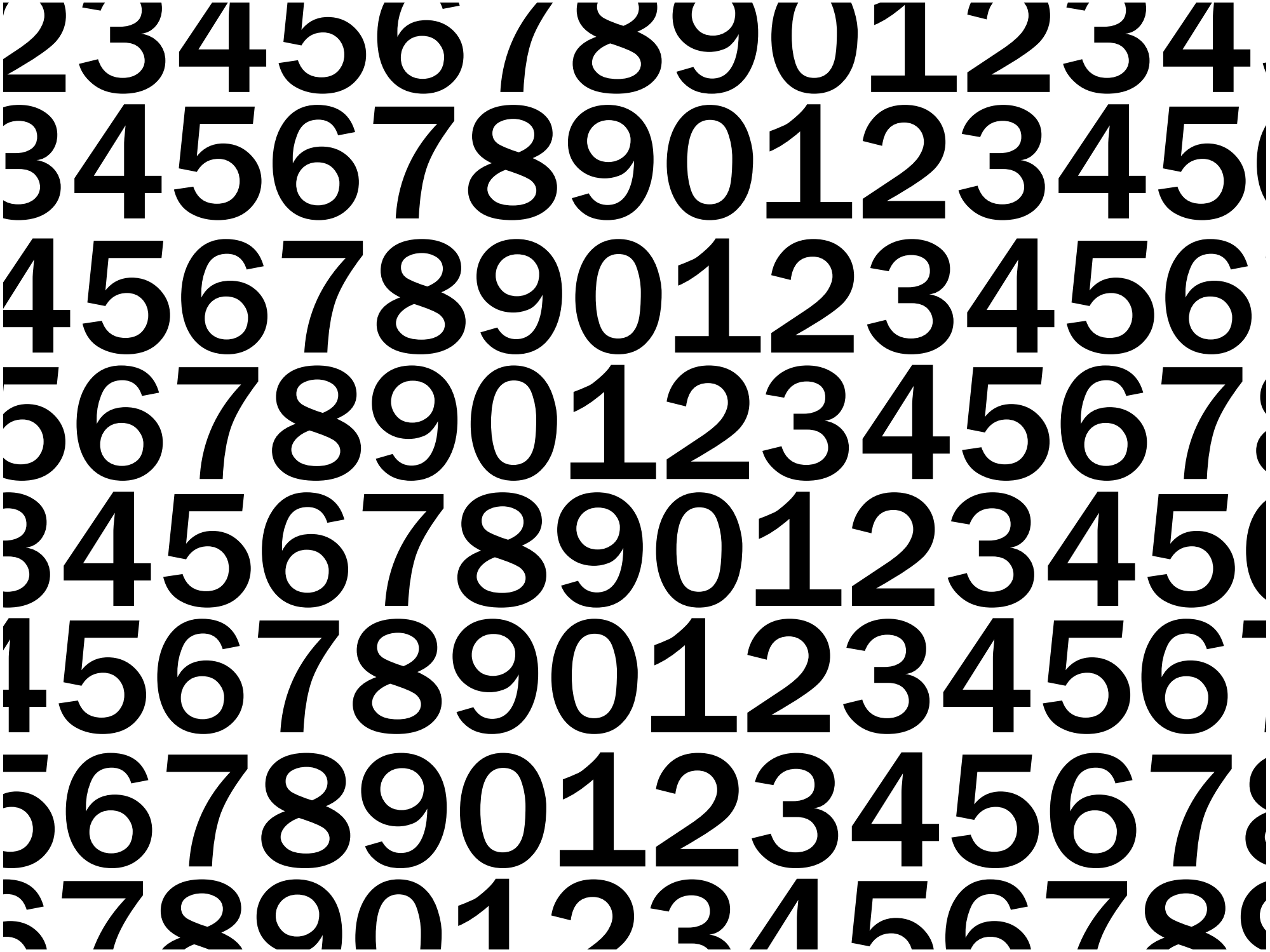
US-ASCII Code Chart. Scanner copied from the material delivered with TermiNet 300 impact type printer with Keyboard, February 1972, General Electric Data communication Product Dept., Waynesboro, Virginia.

USASCII code chart

$b_7 b_6 b_5$ → / Bits ↓					0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
b_4	b_3	b_2	b_1	Row ↓ Column →	0	1	2	3	4	5	6	7
0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
0	0	0	1	1	SOH	DC1	!	1	A	Q	a	q
0	0	1	0	2	STX	DC2	"	2	B	R	b	r
0	0	1	1	3	ETX	DC3	#	3	C	S	c	s
0	1	0	0	4	EOT	DC4	$	4	D	T	d	t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e	u
0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
0	1	1	1	7	BEL	ETB	'	7	G	W	g	w
1	0	0	0	8	BS	CAN	(	8	H	X	h	x
1	0	0	1	9	HT	EM	)	9	I	Y	i	y
1	0	1	0	10	LF	SUB	*	:	J	Z	j	z
1	0	1	1	11	VT	ESC	+	;	K	[	k	{
1	1	0	0	12	FF	FS	,	<	L	\	l	|
1	1	0	1	13	CR	GS	-	=	M	]	m	}
1	1	1	0	14	SO	RS	.	>	N	^	n	~
1	1	1	1	15	SI	US	/	?	O	_	o	DEL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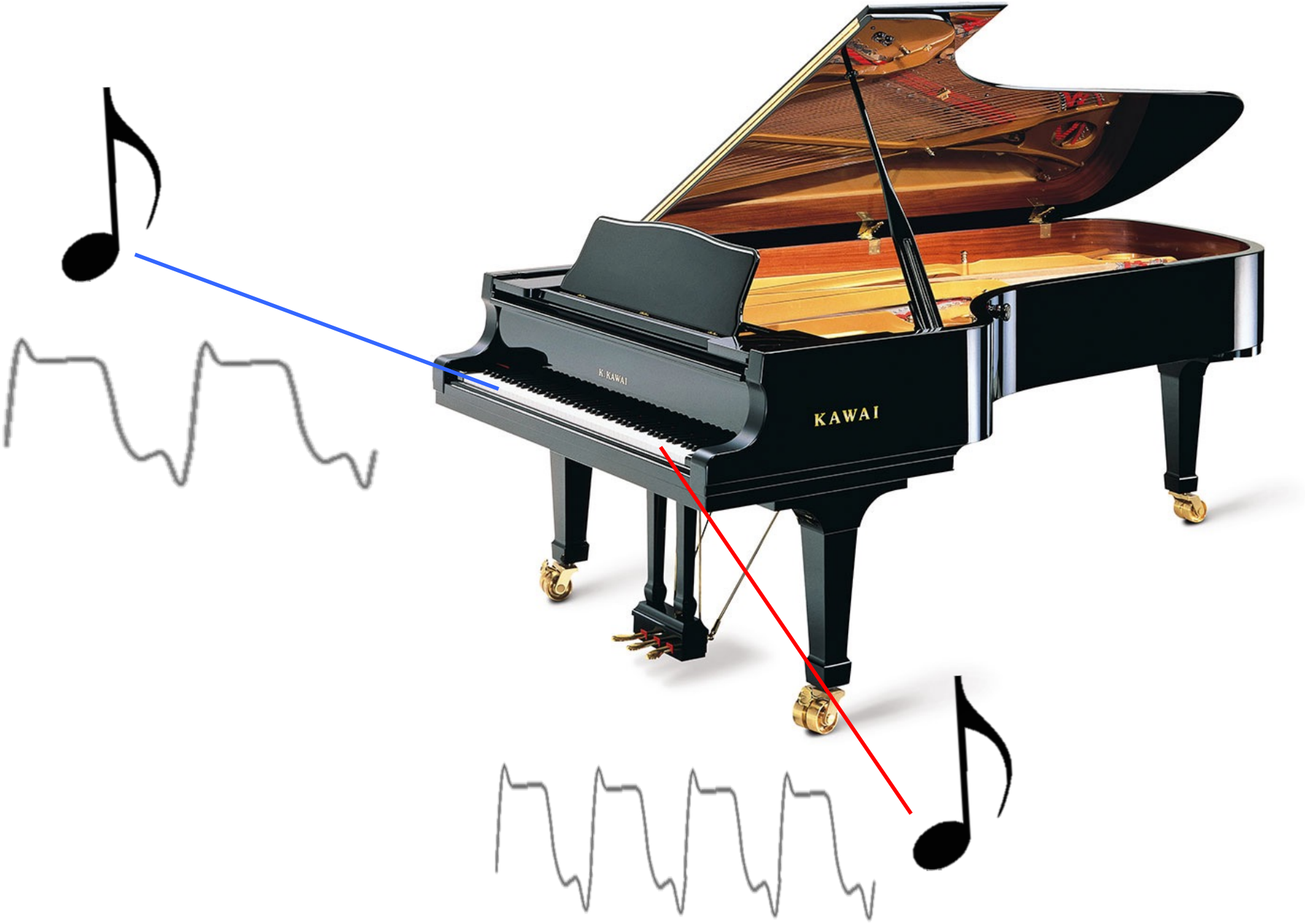
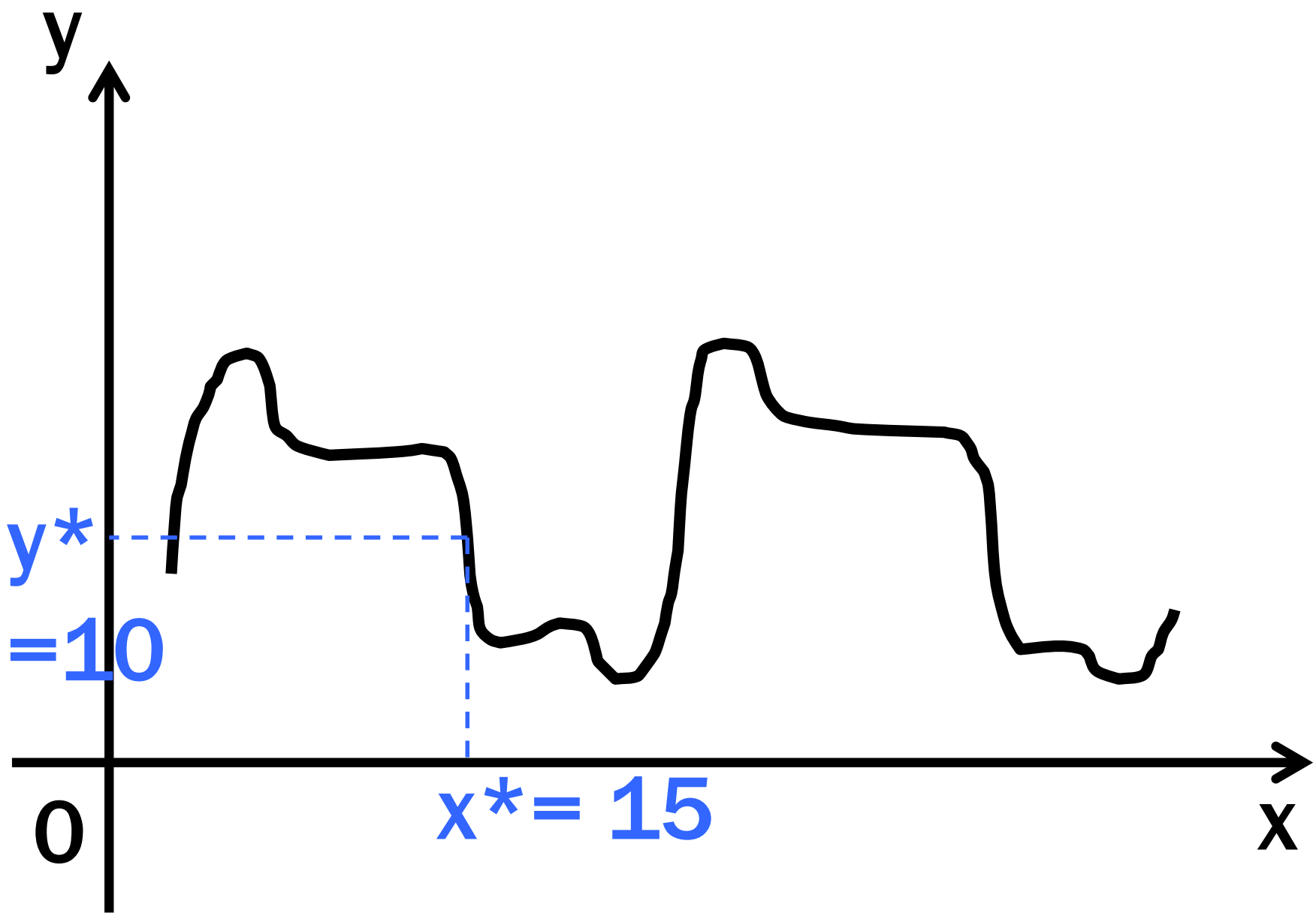
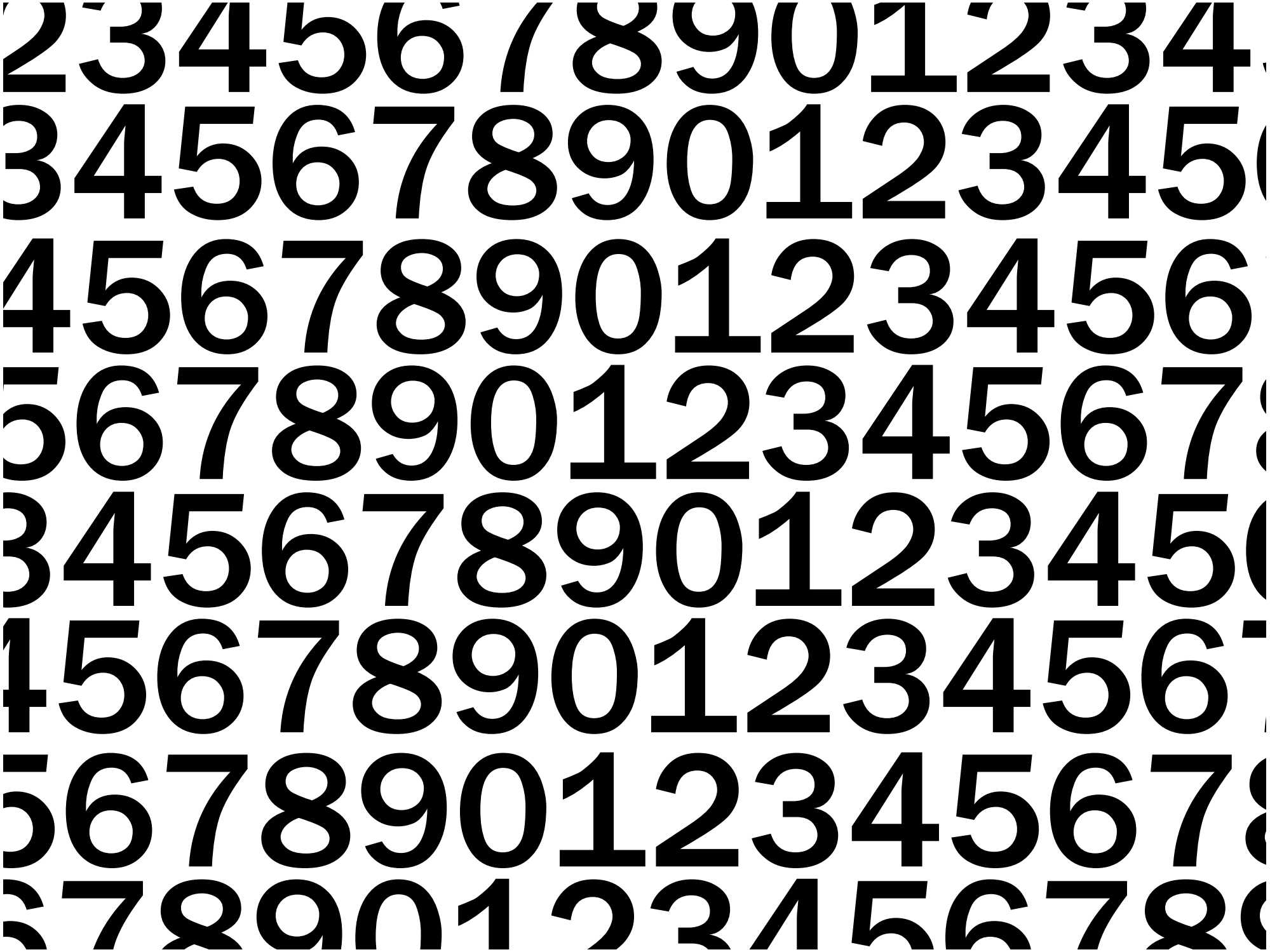

K. KAWAI
KAWAI


y
y*
=10
0
x*= 15
x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SHARP
+TAX
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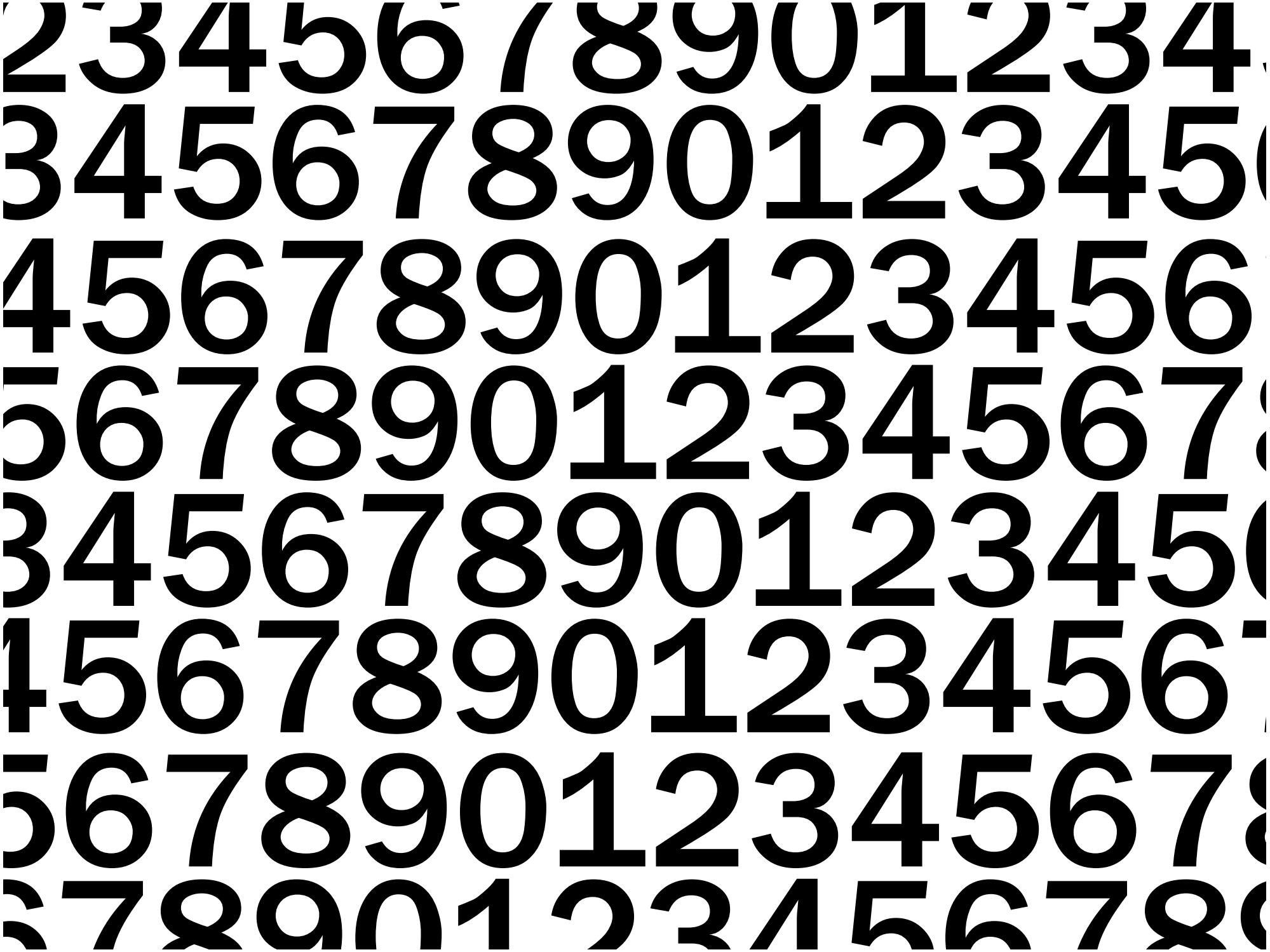
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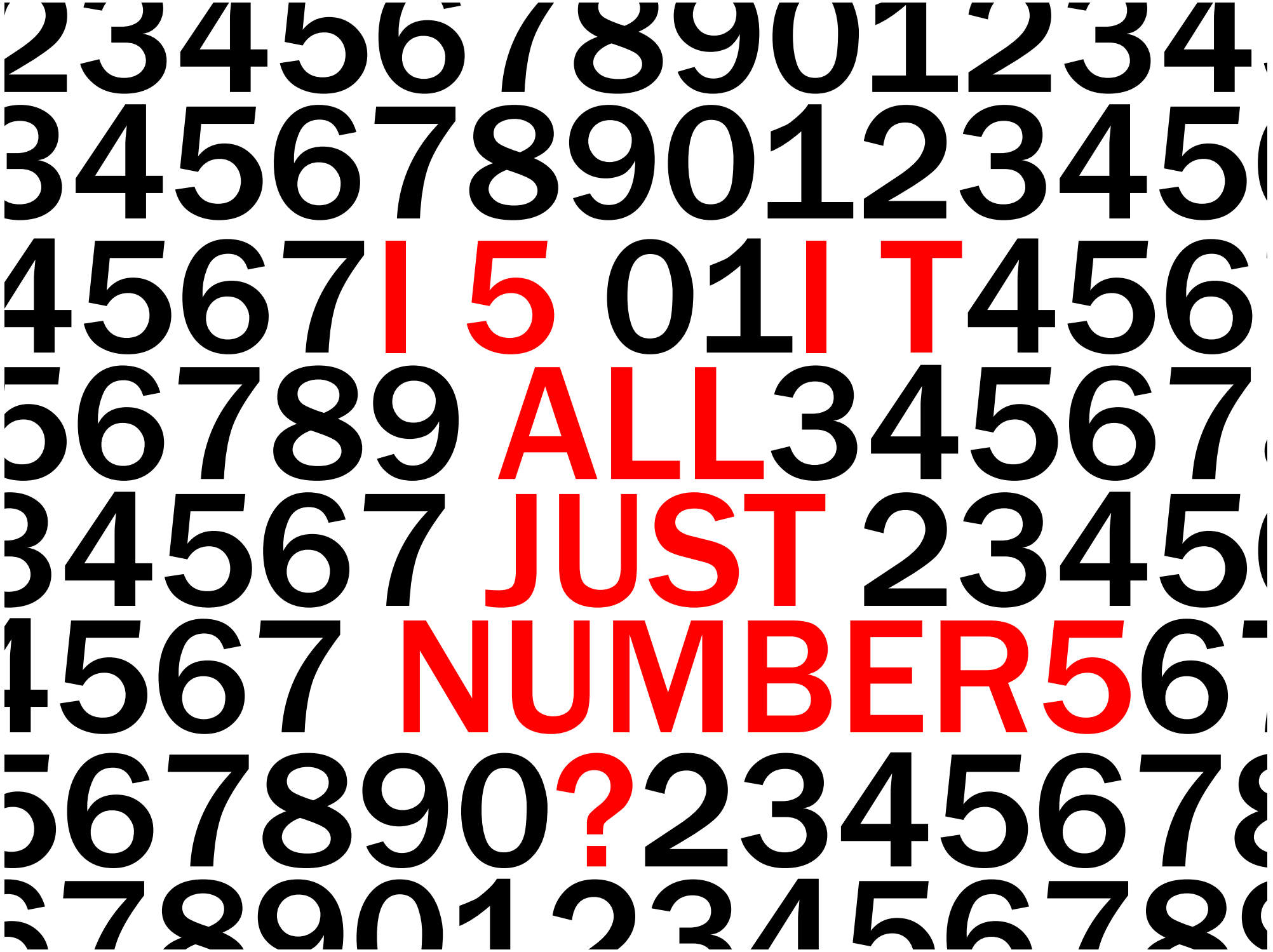
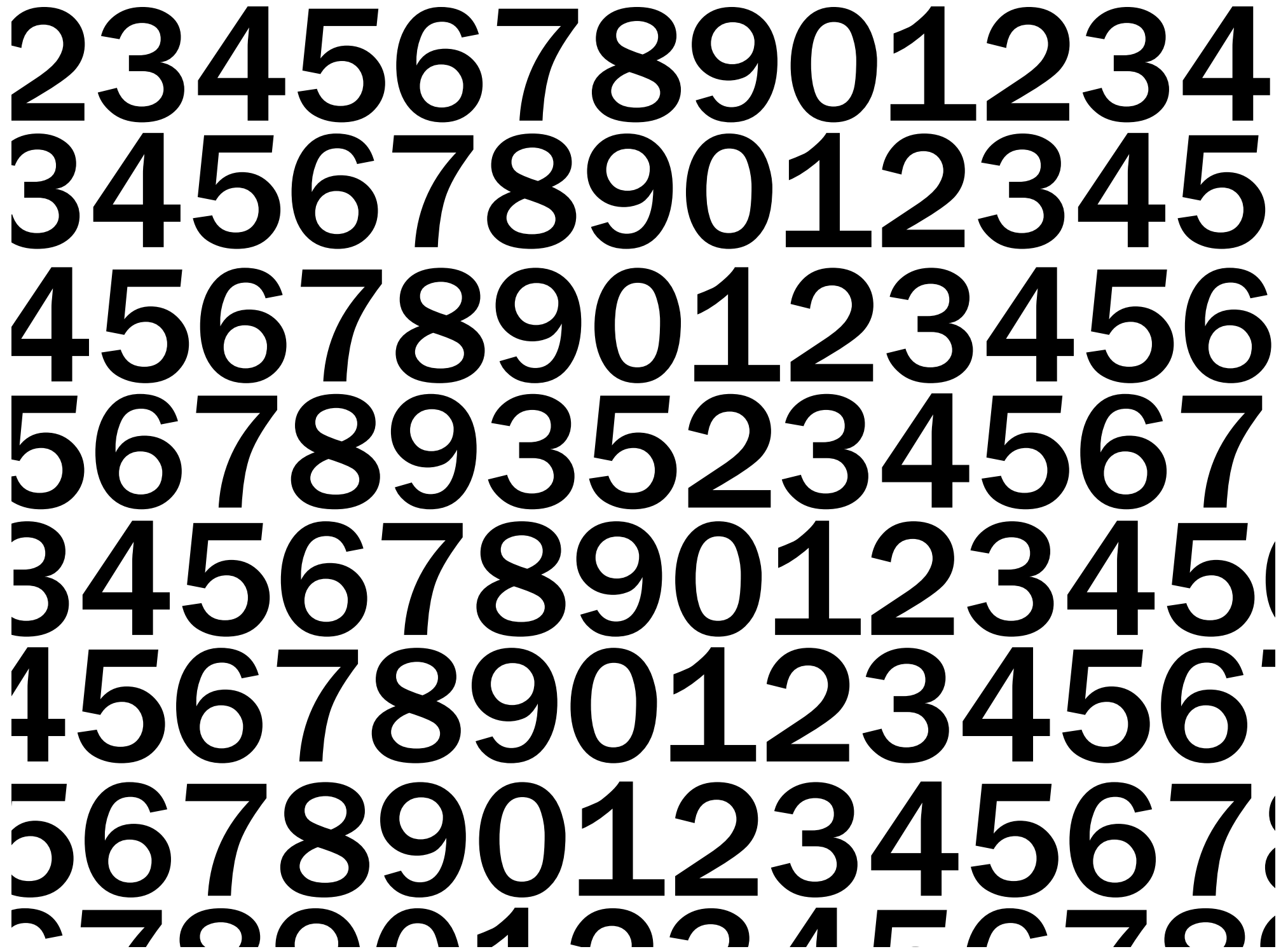

I 5 01I T
ALL
JUST
NUMBER5
?

3+2

352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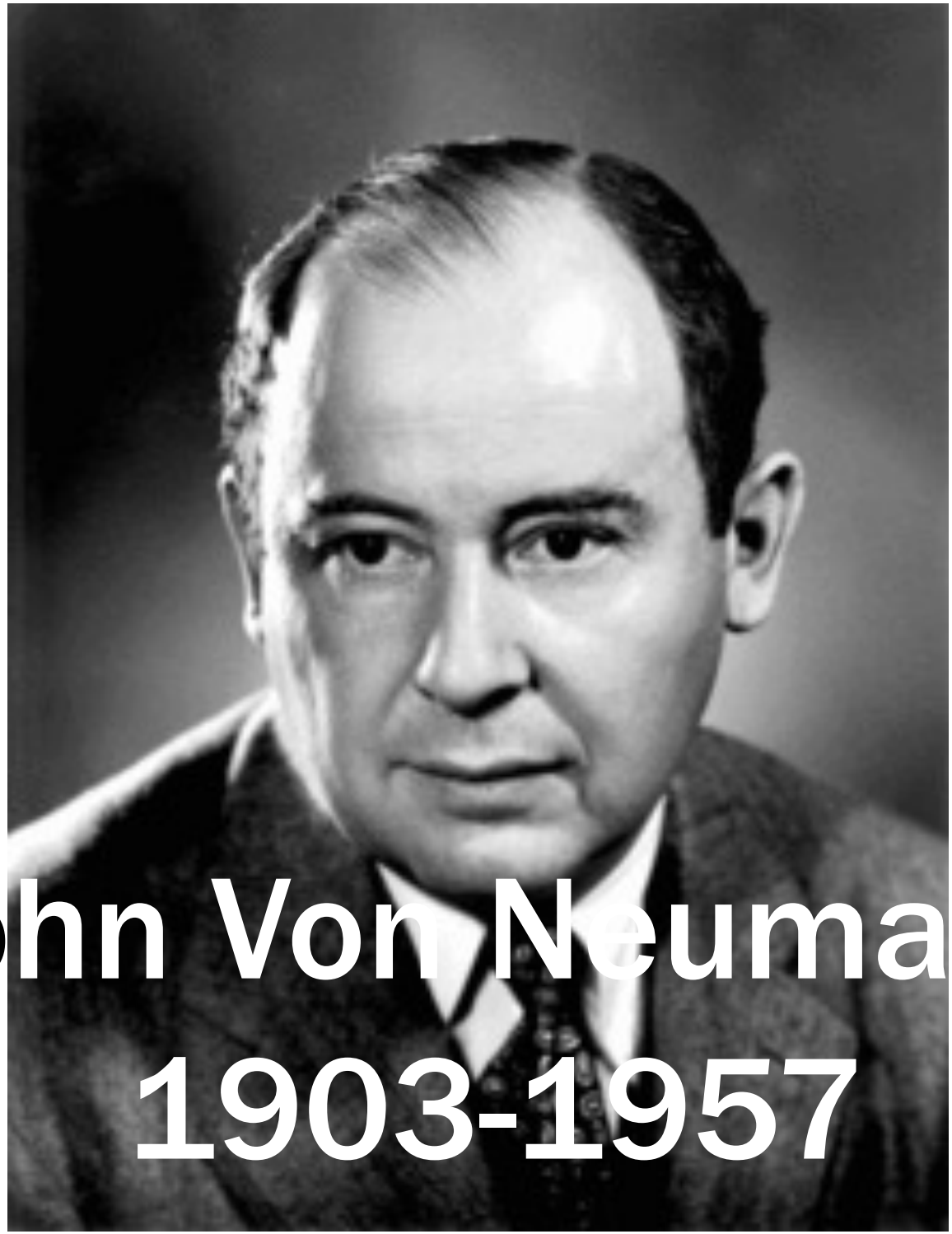


John Von Neumann
1903-1957

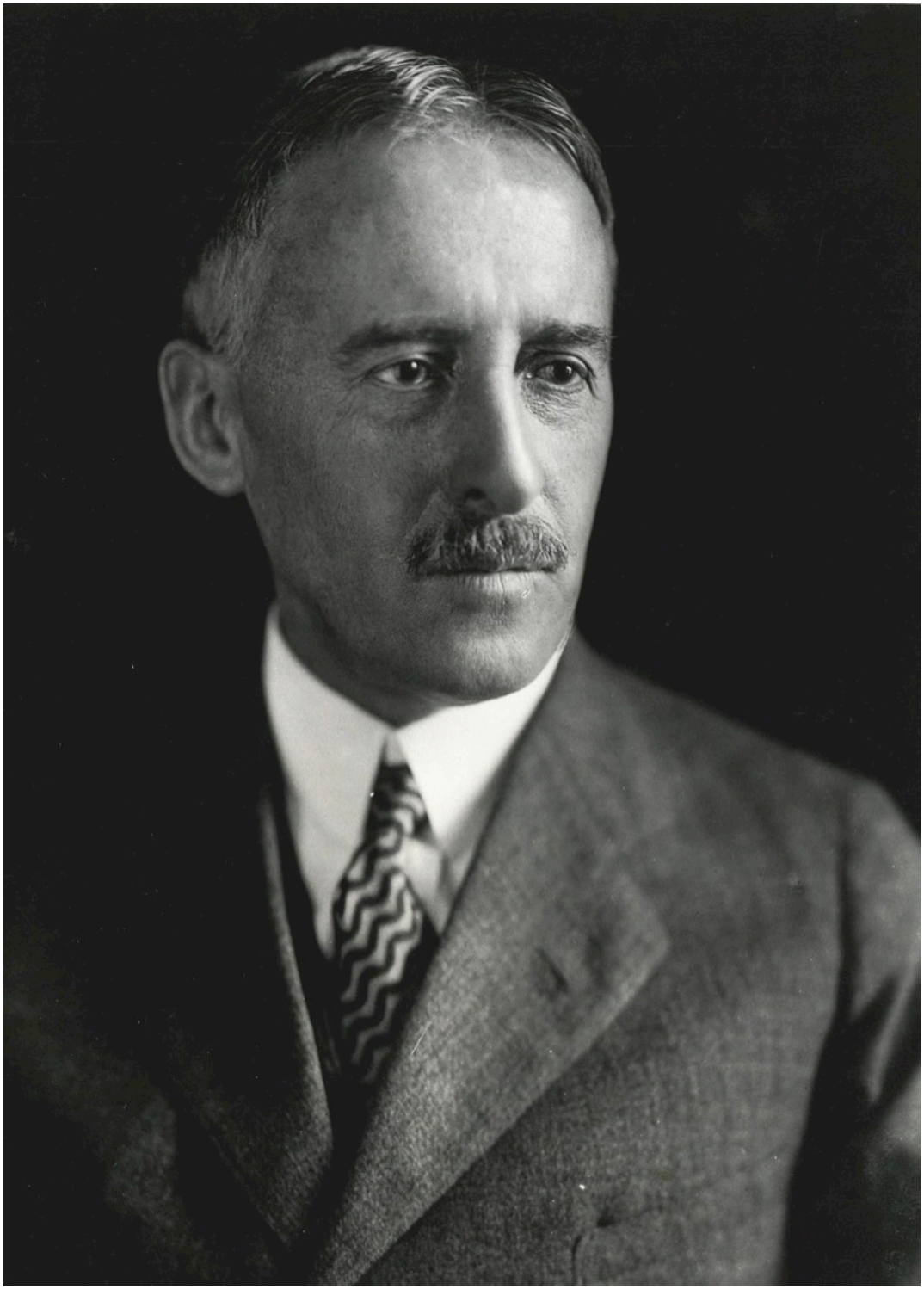

Von

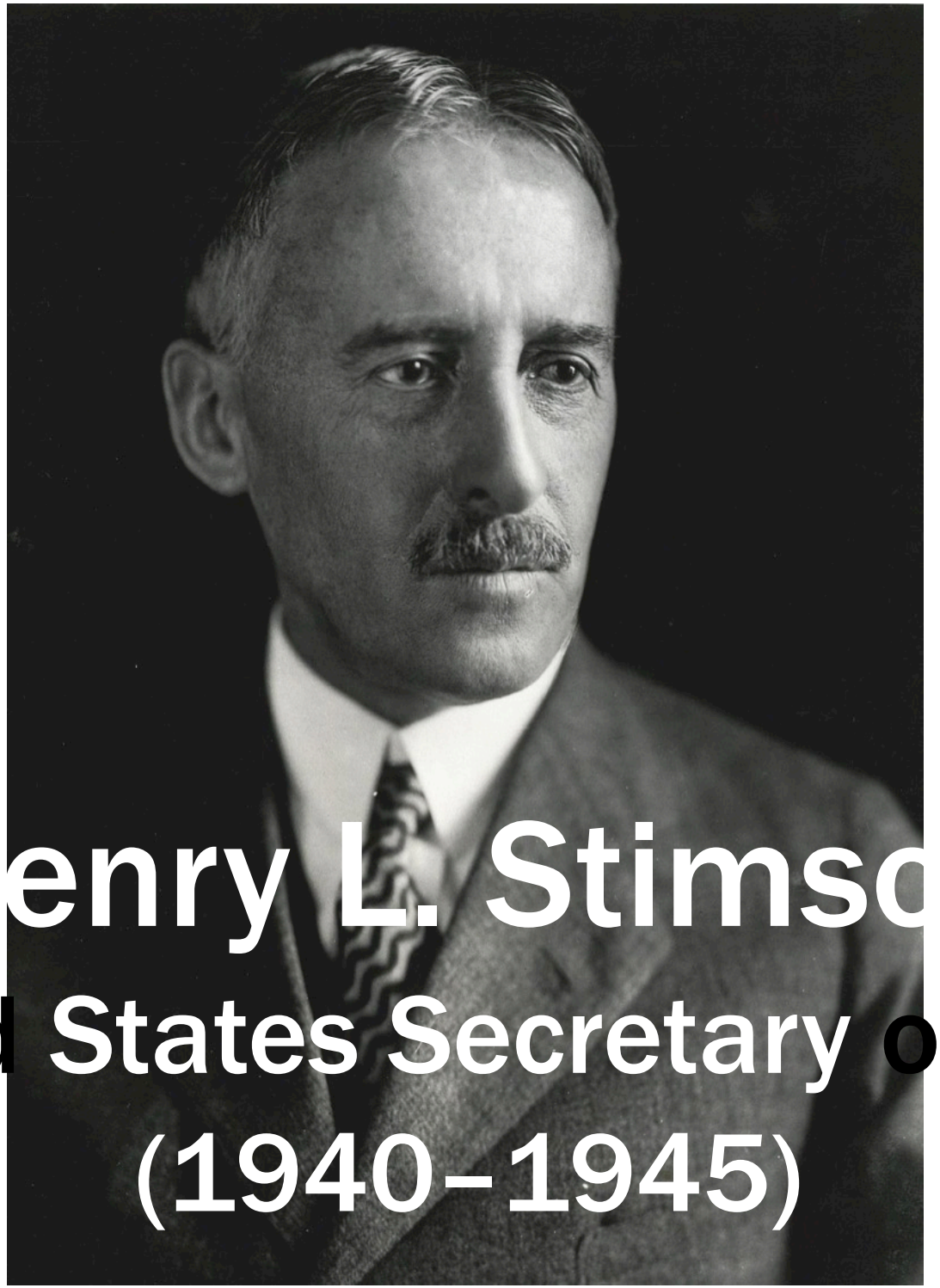
János Lajos Neumann

Nuclear bomb test (Bikini Atoll, Micronesia, 1946)

Honeymoon in Kyoto

Kyoto is an incredibly romantic city. With intimate restaurants, atmospheric lanes, superb accommodations and a thousand quiet gardens and temples, it's the perfect place to spend time with someone you love. Here's our full guide to honeymooning in Kyoto.



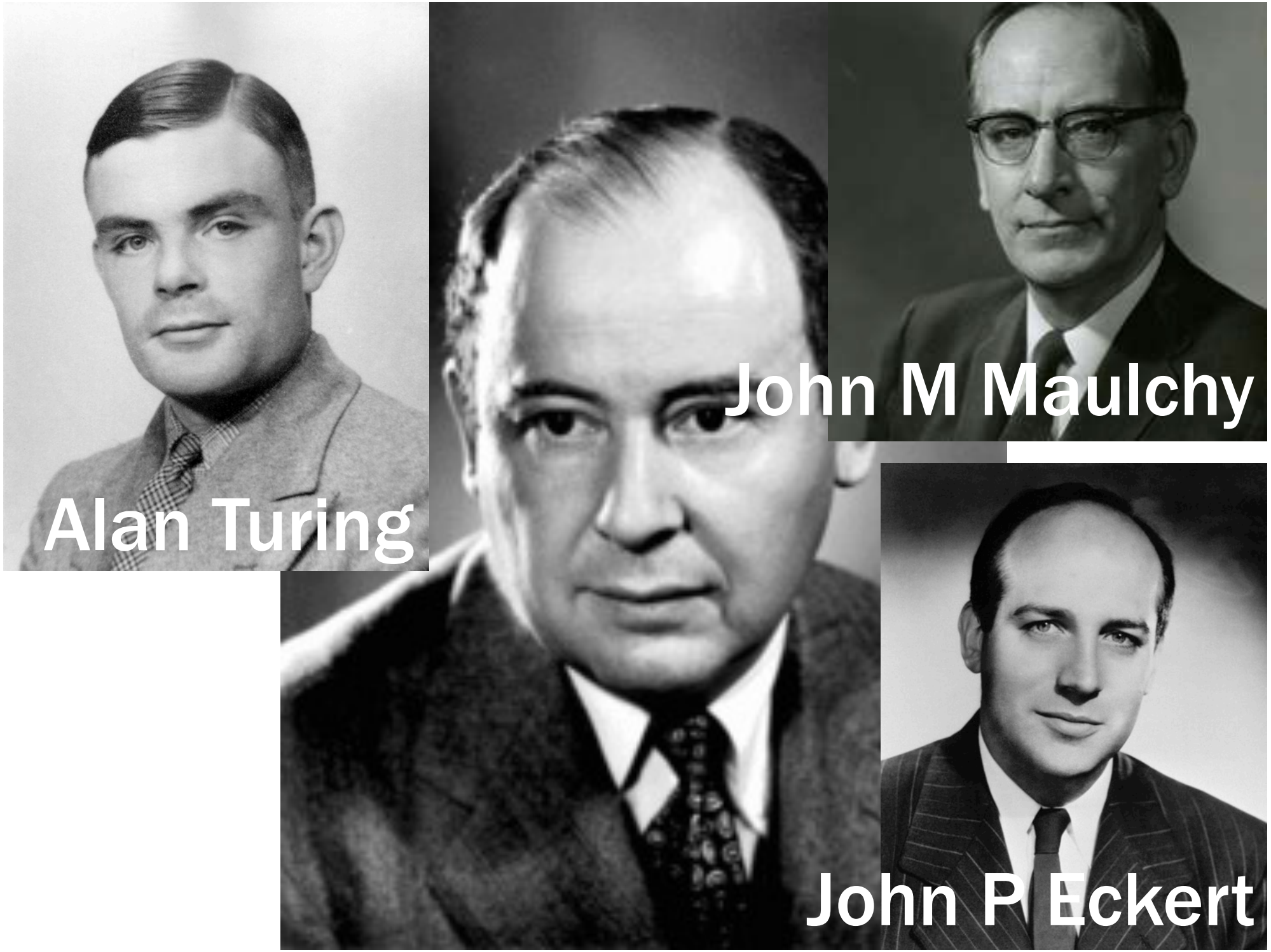


Henry L. Stimson

United States Secretary of War

(1940–1945)


Von


Alan Turing
John M Maulchy
John P Eckert


THE
STORED
PROGRAM

THE STORED PROGRAM

Both operations and operands can be stored in the same place.

THE STORED PROGRAM

Both operations and operands can be stored in the same place.

operations

operands

3+2

operations

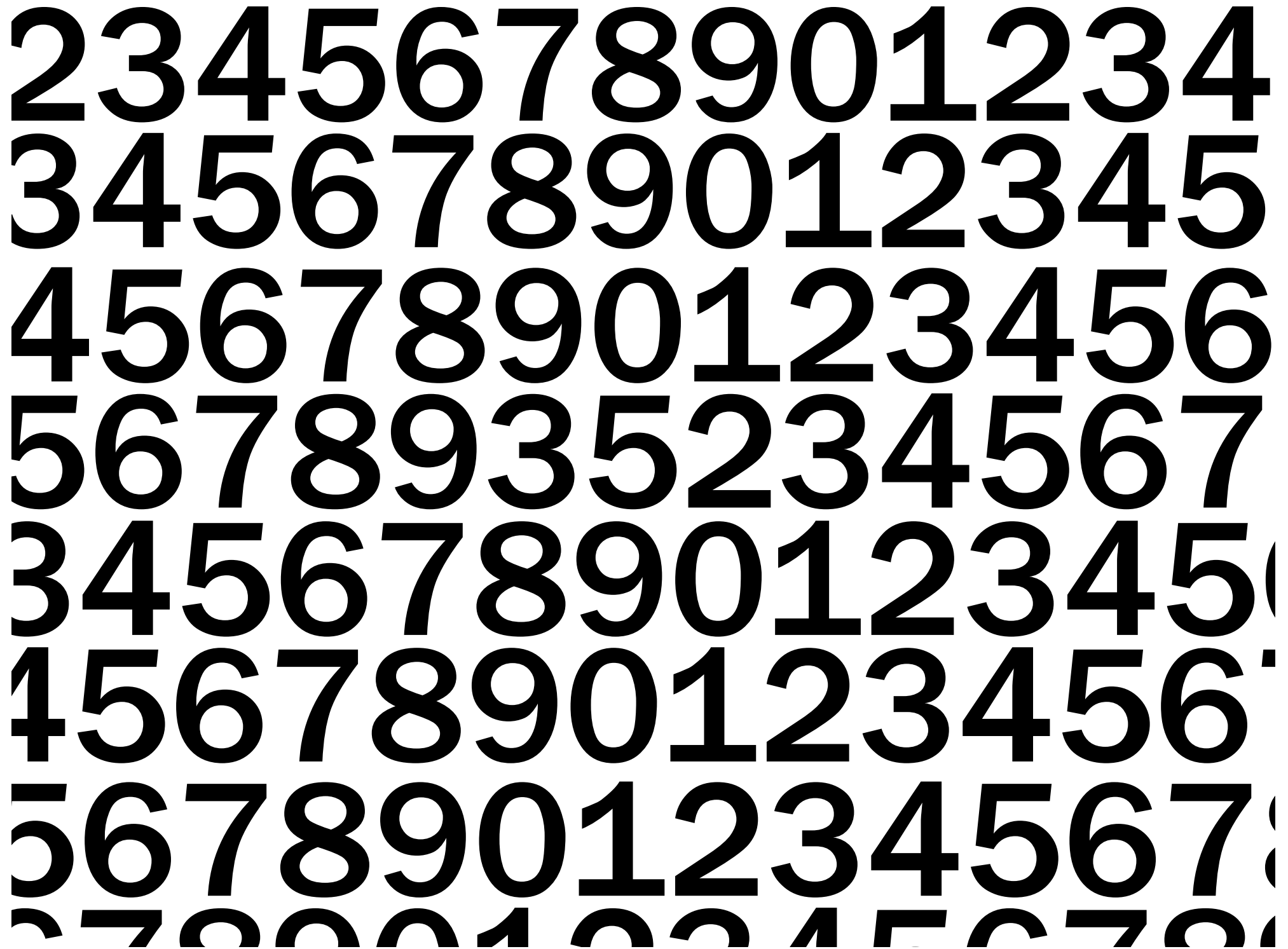
operands

352

operations

operands

place 352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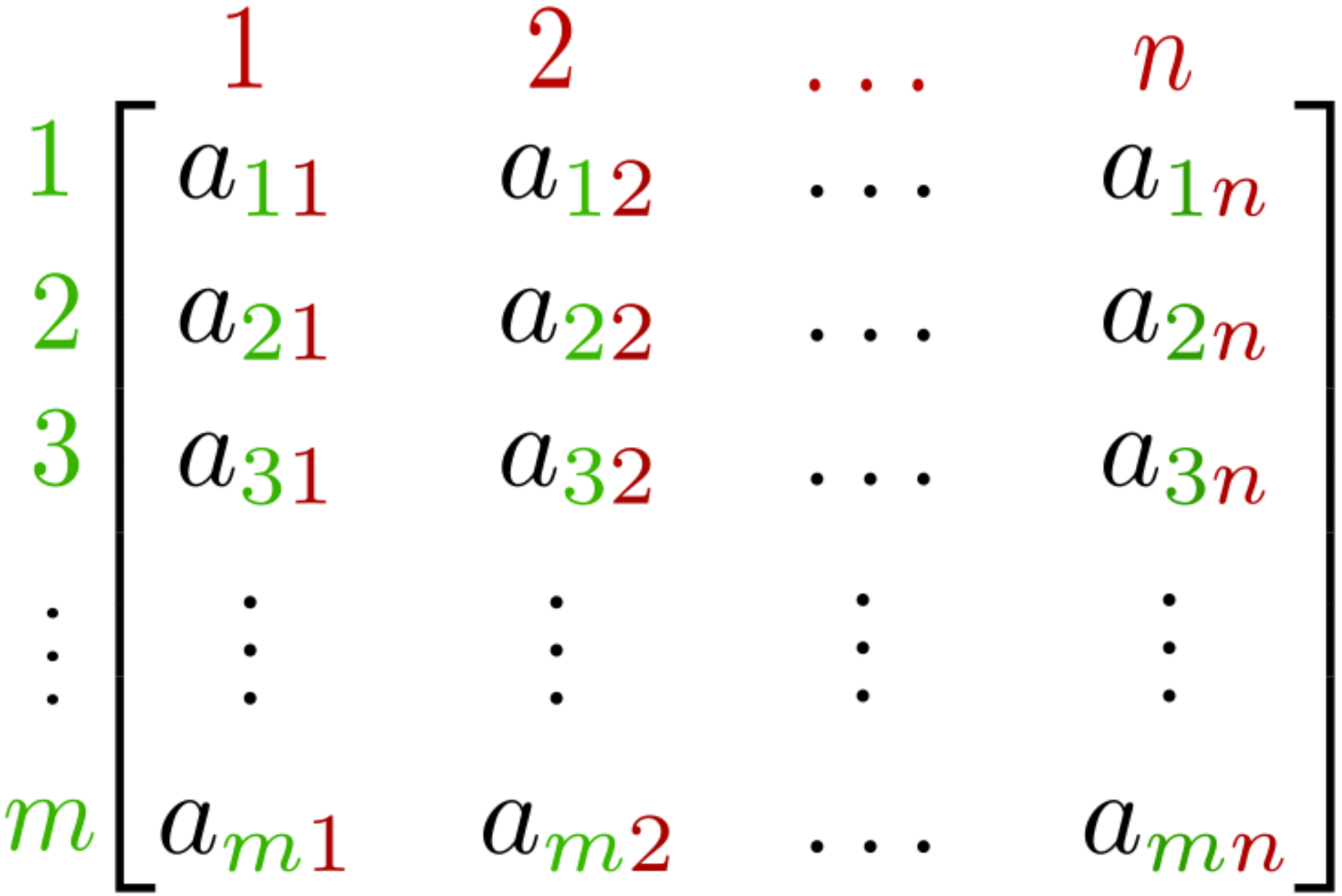
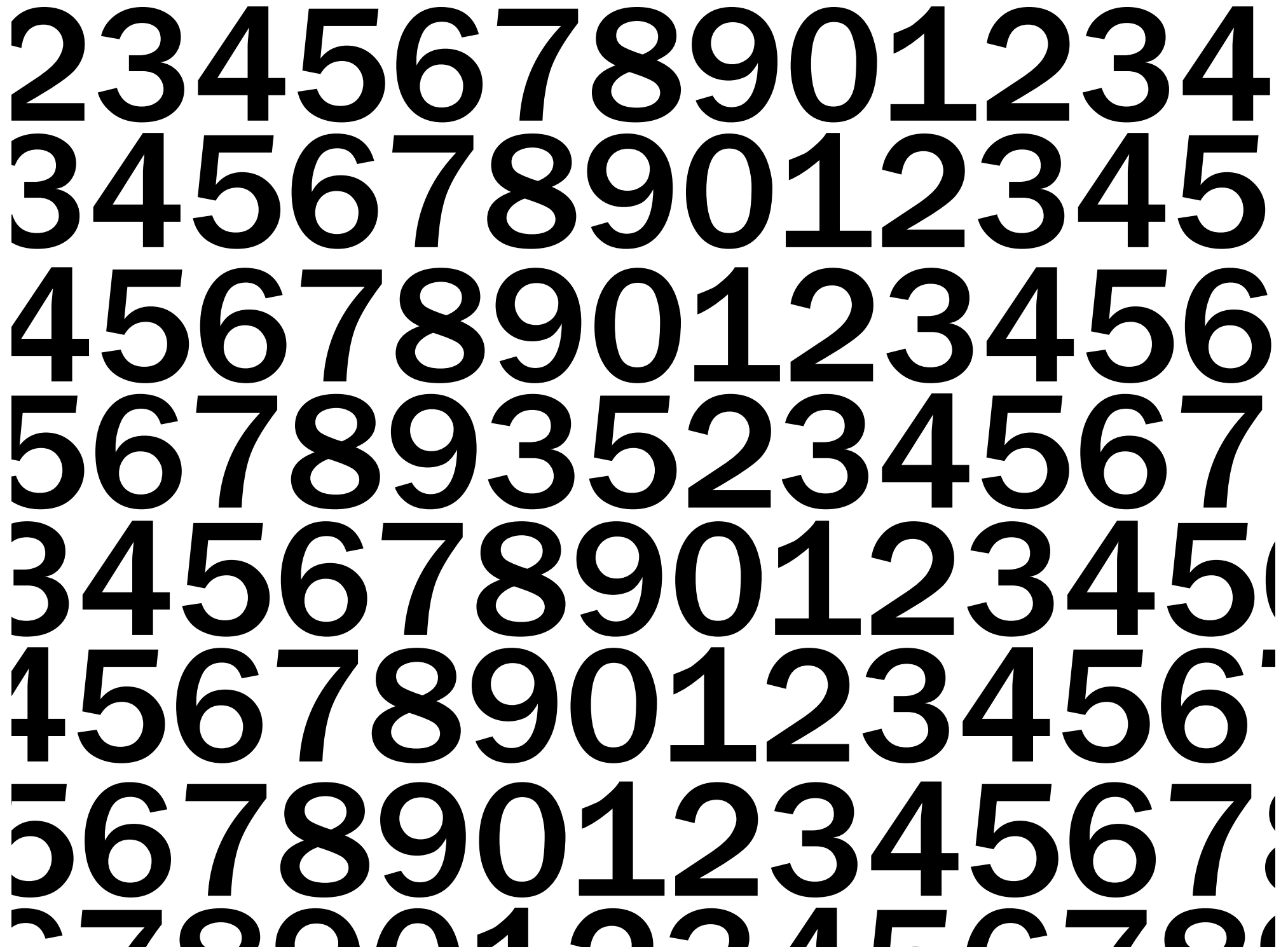
THE MATRIX
FREE YOUR MIND.


1 2 ... n
1 a11 a12 ... a1n
2 a21 a22 ... a2n
3 a31 a32 ... a3n
m am1 am2 ... amn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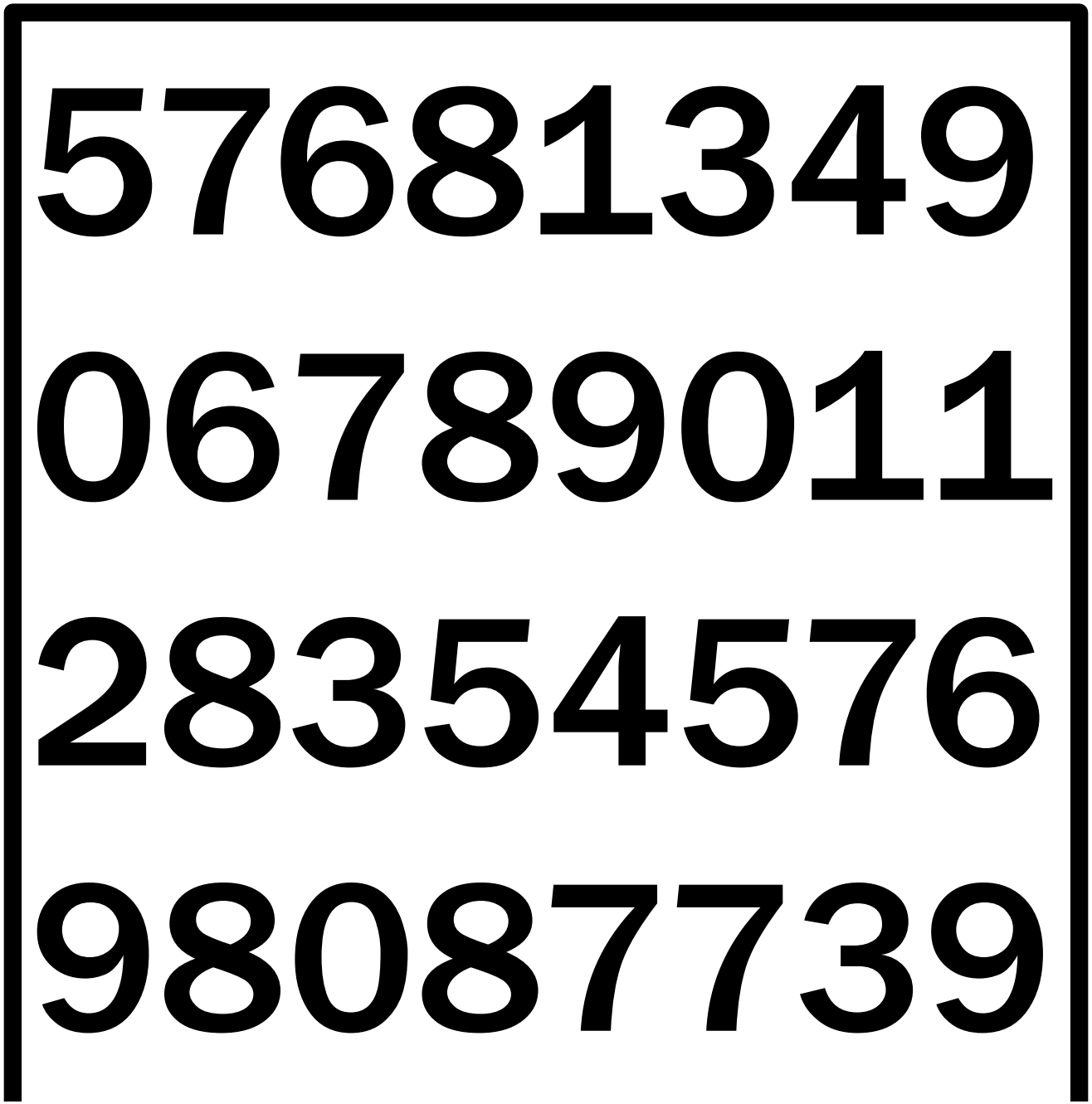
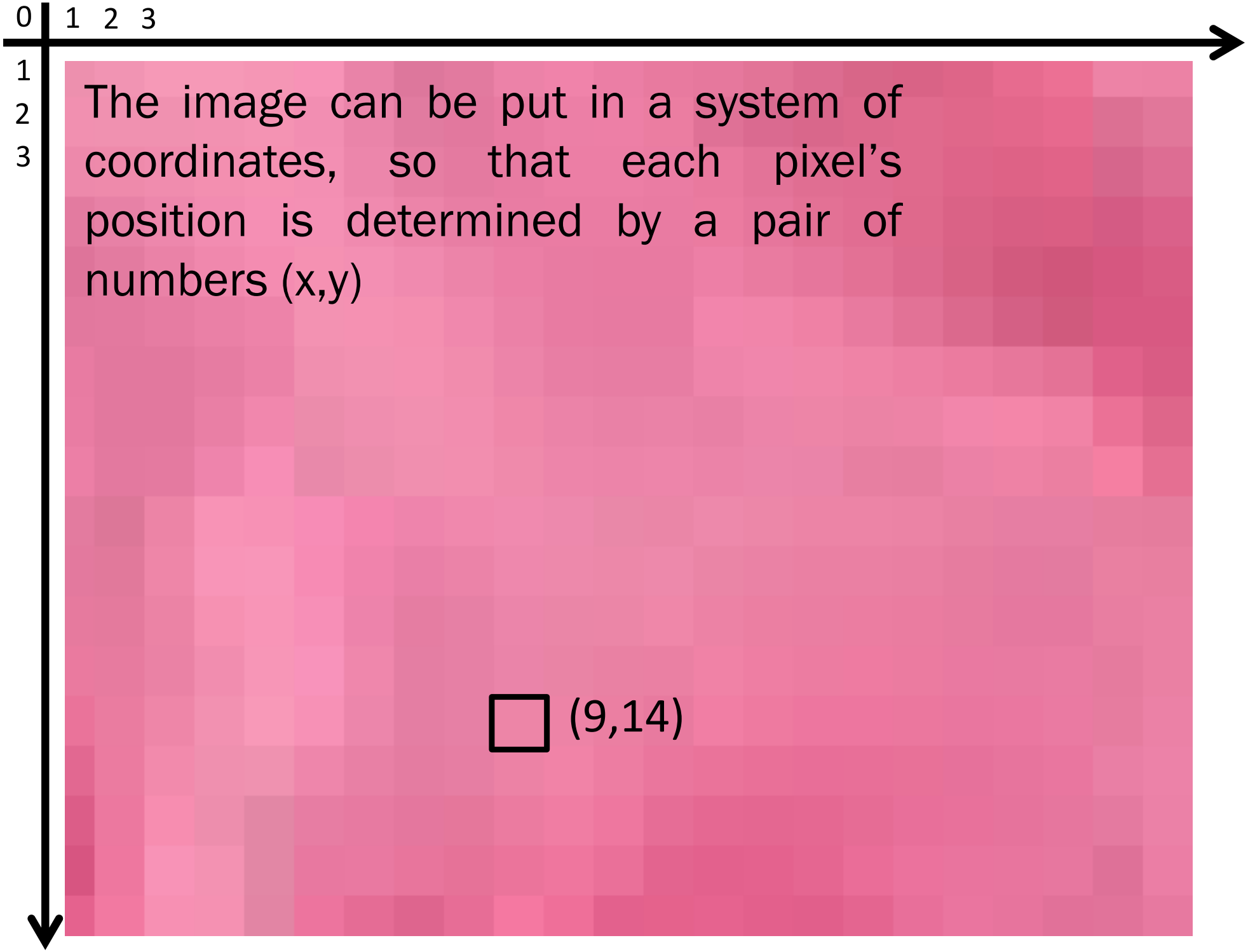
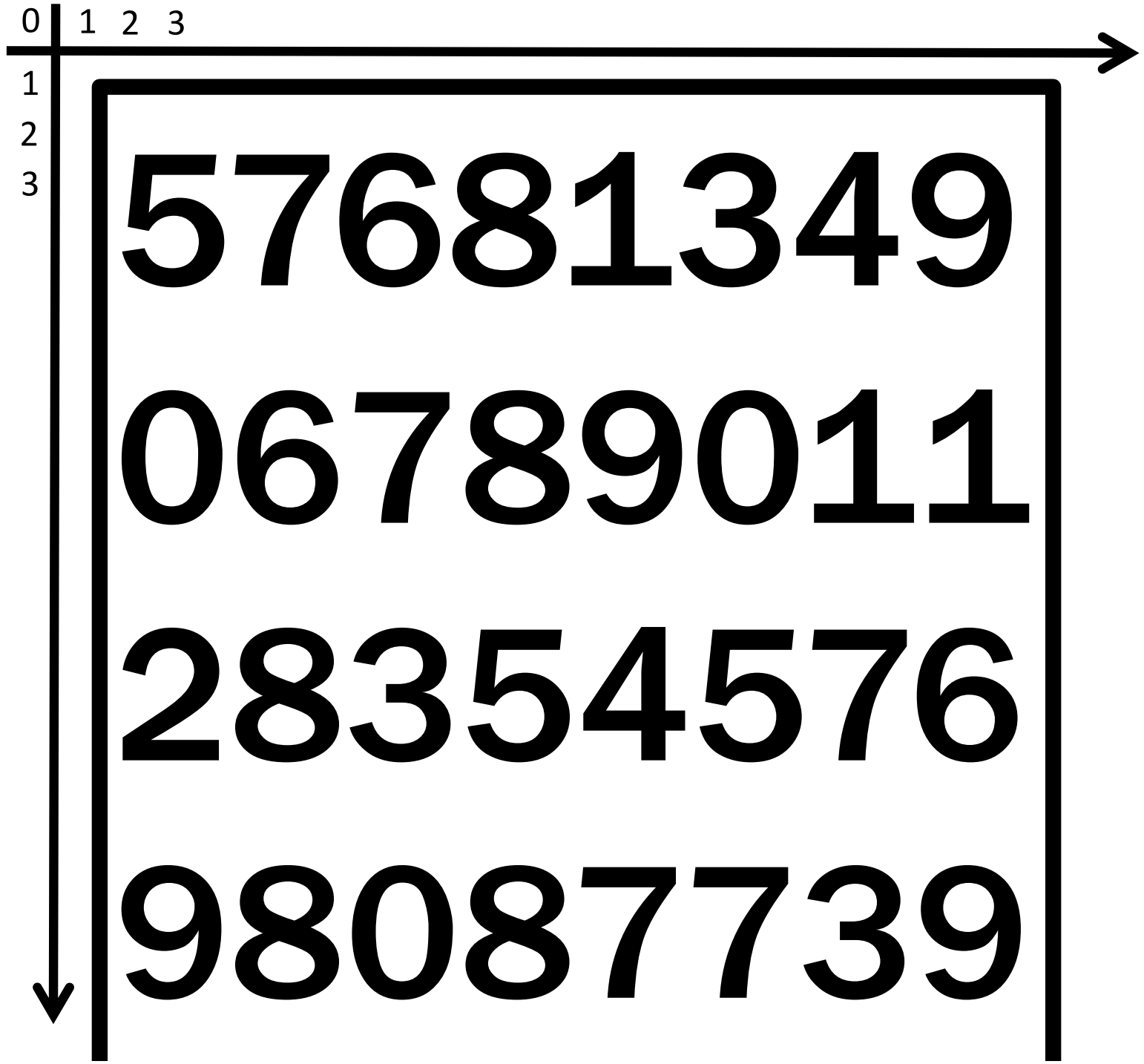

57681349
06789011
28354576
98087739


0 1 2 3
1
2
3
The image can be put in a system of coordinates, so that each pixel's position is determined by a pair of numbers (x,y)
(9,14)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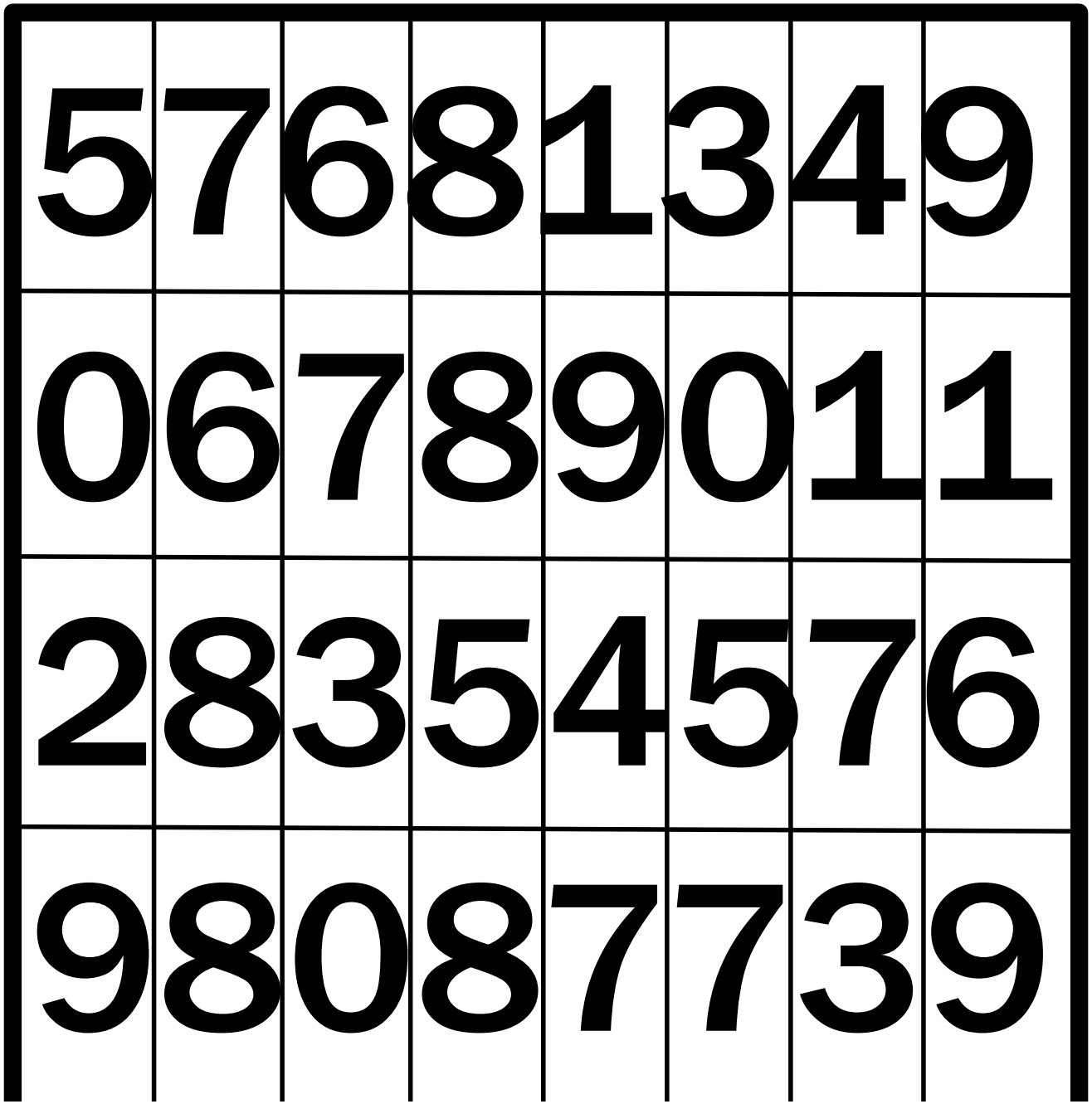
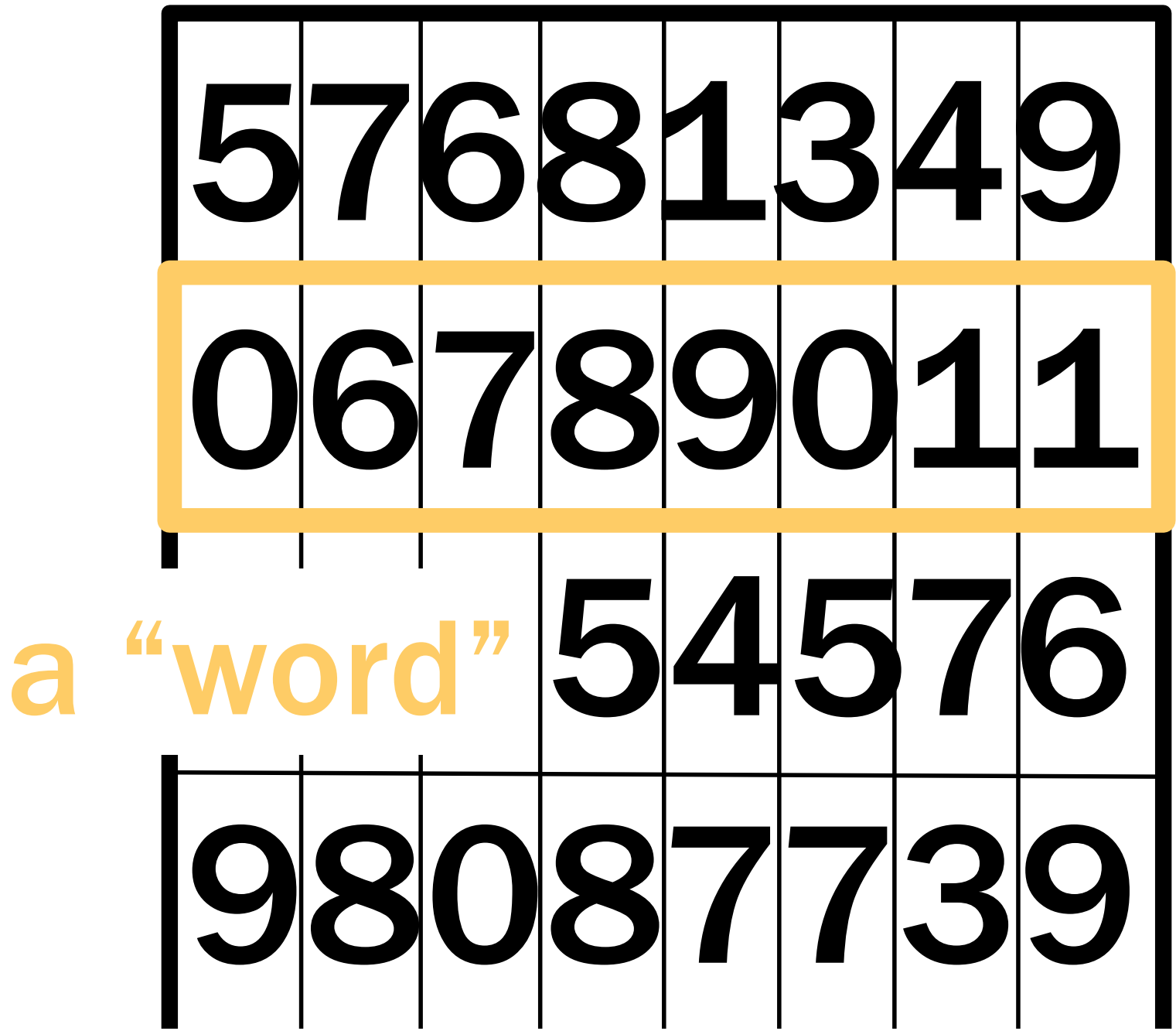
06789011
28354576
98087739


5768134 9
0678901 1
2835457 6
9808773 9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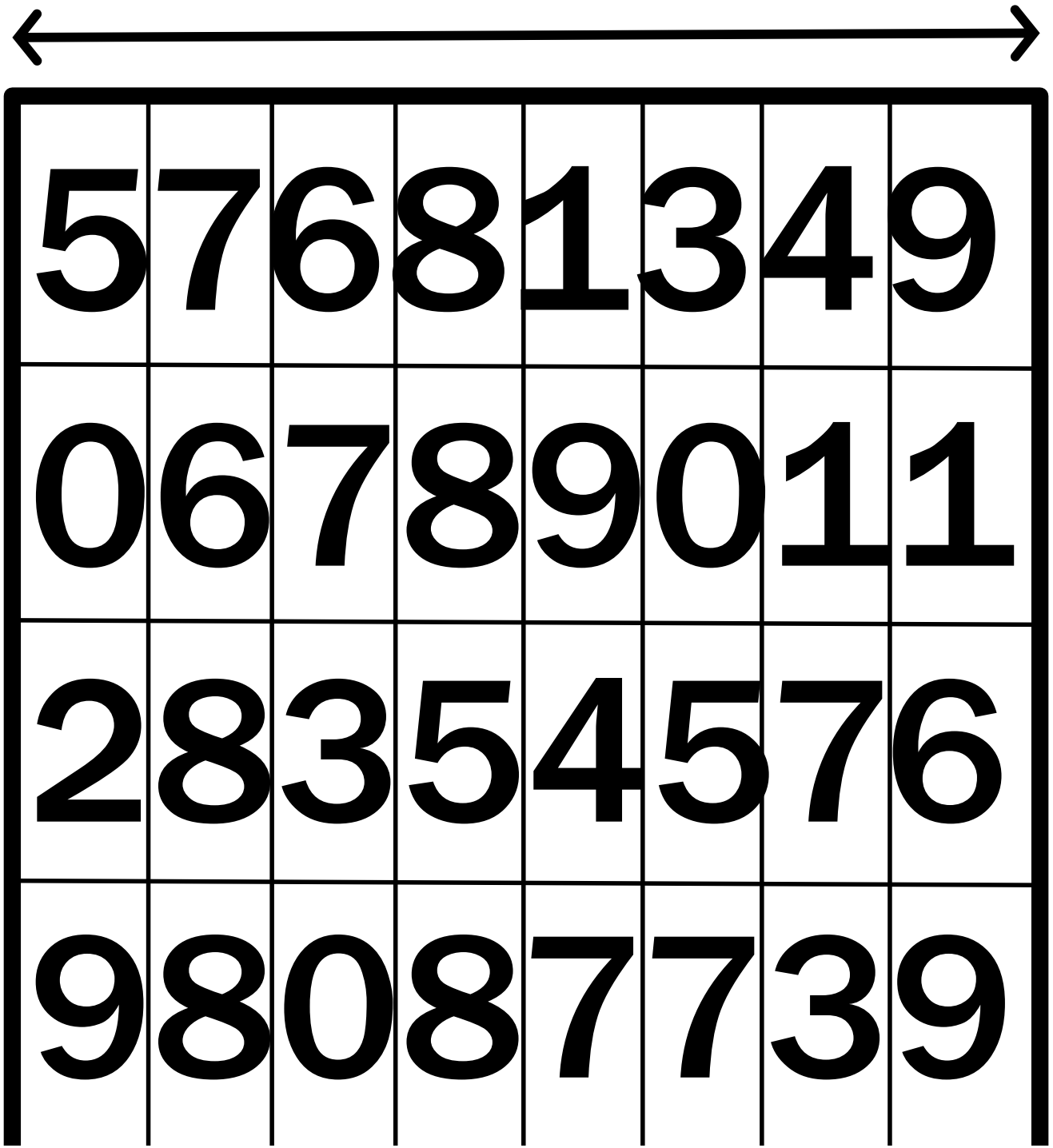
06789011
a "word"
54576
98087739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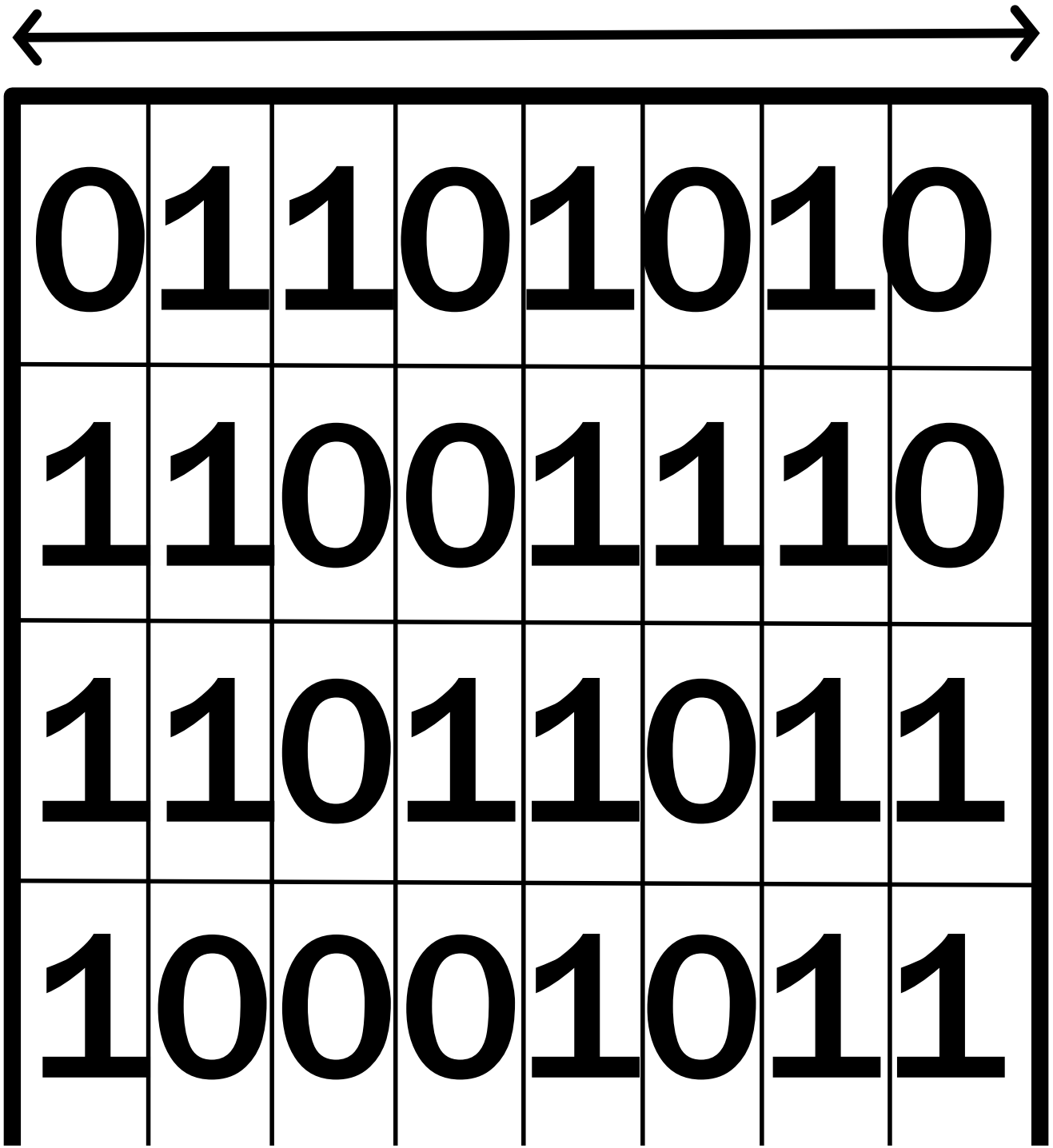
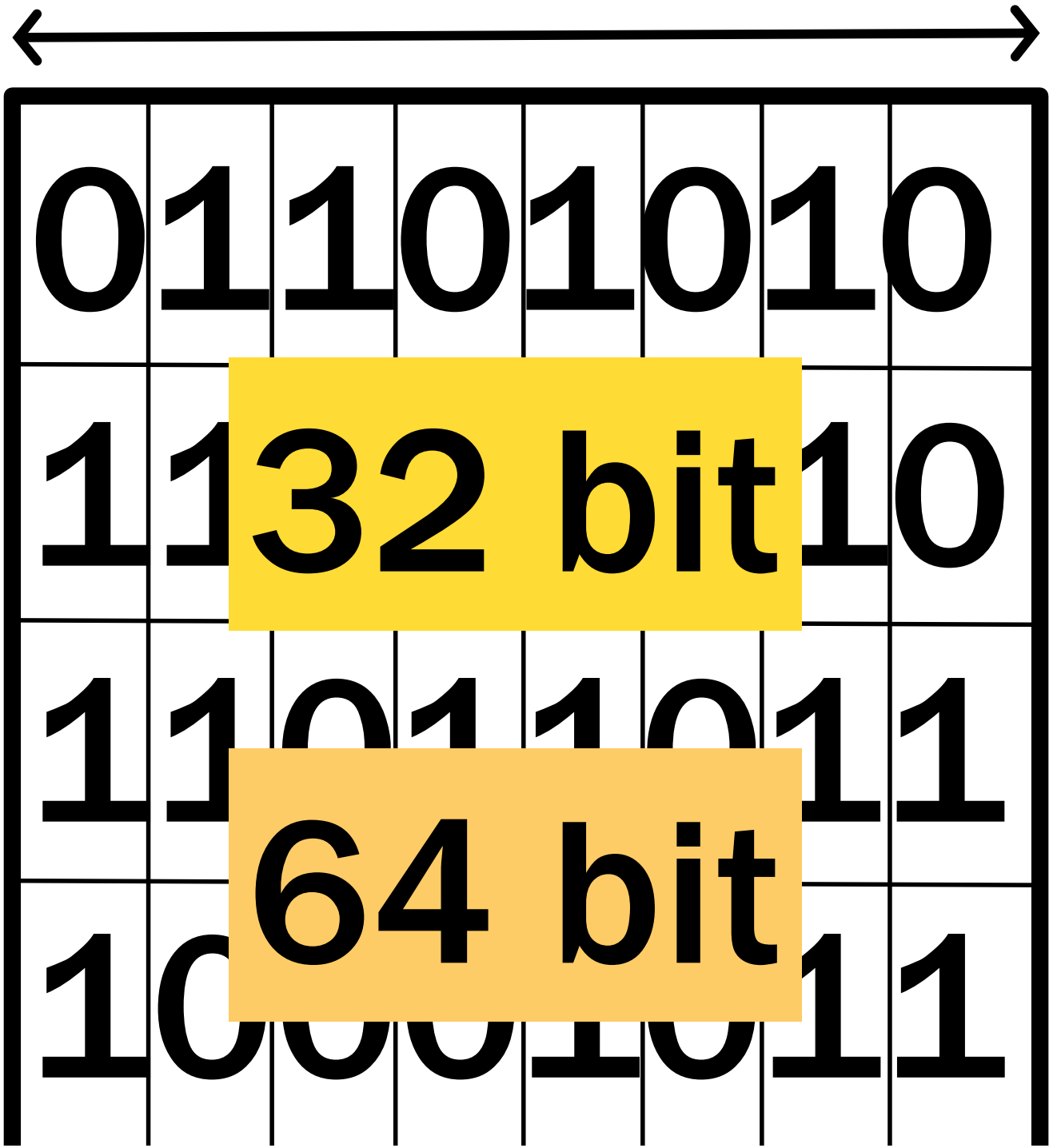
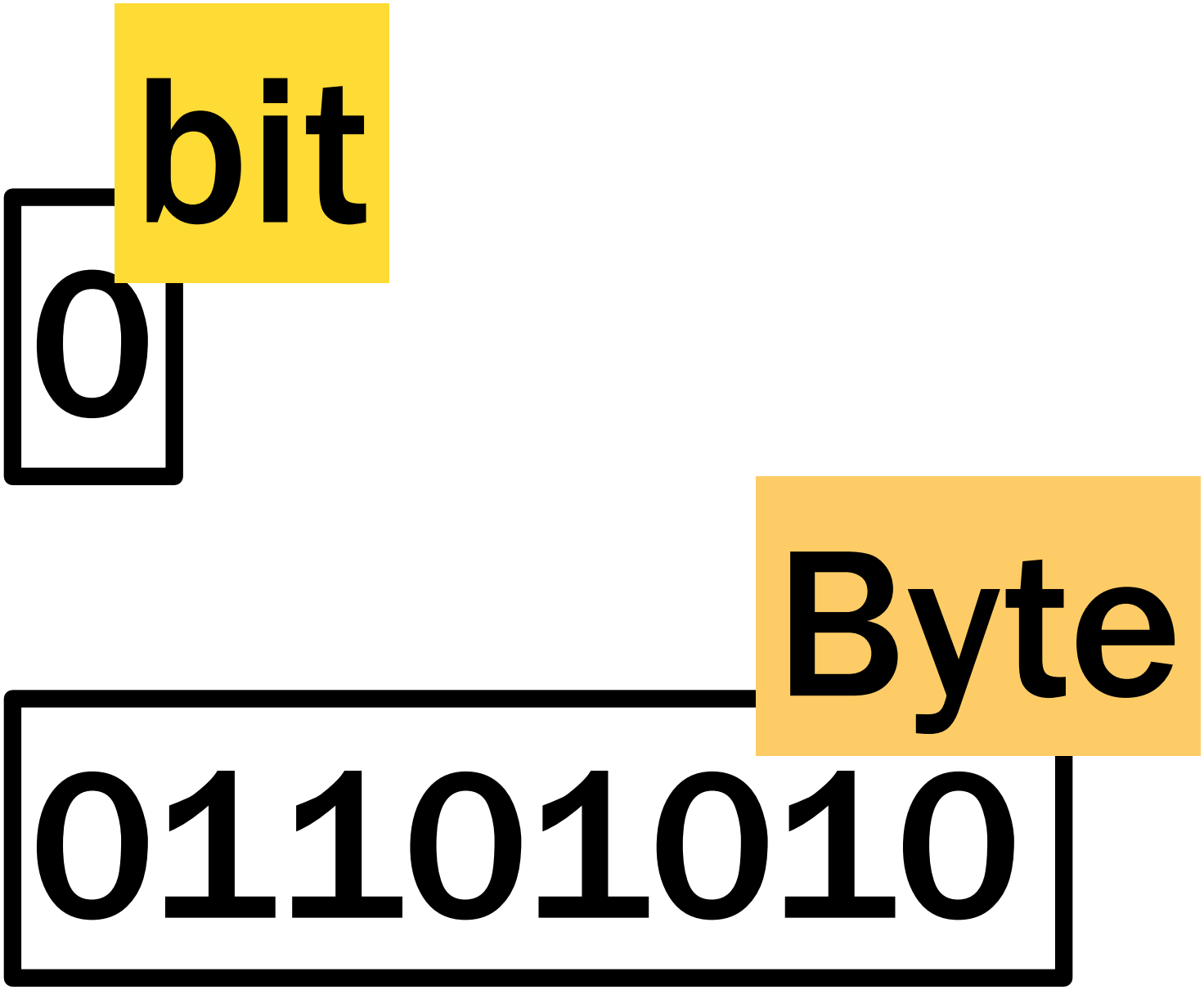
0678901 1
2835457 6
9808773 9


01101010
11001110
11011011
10001011

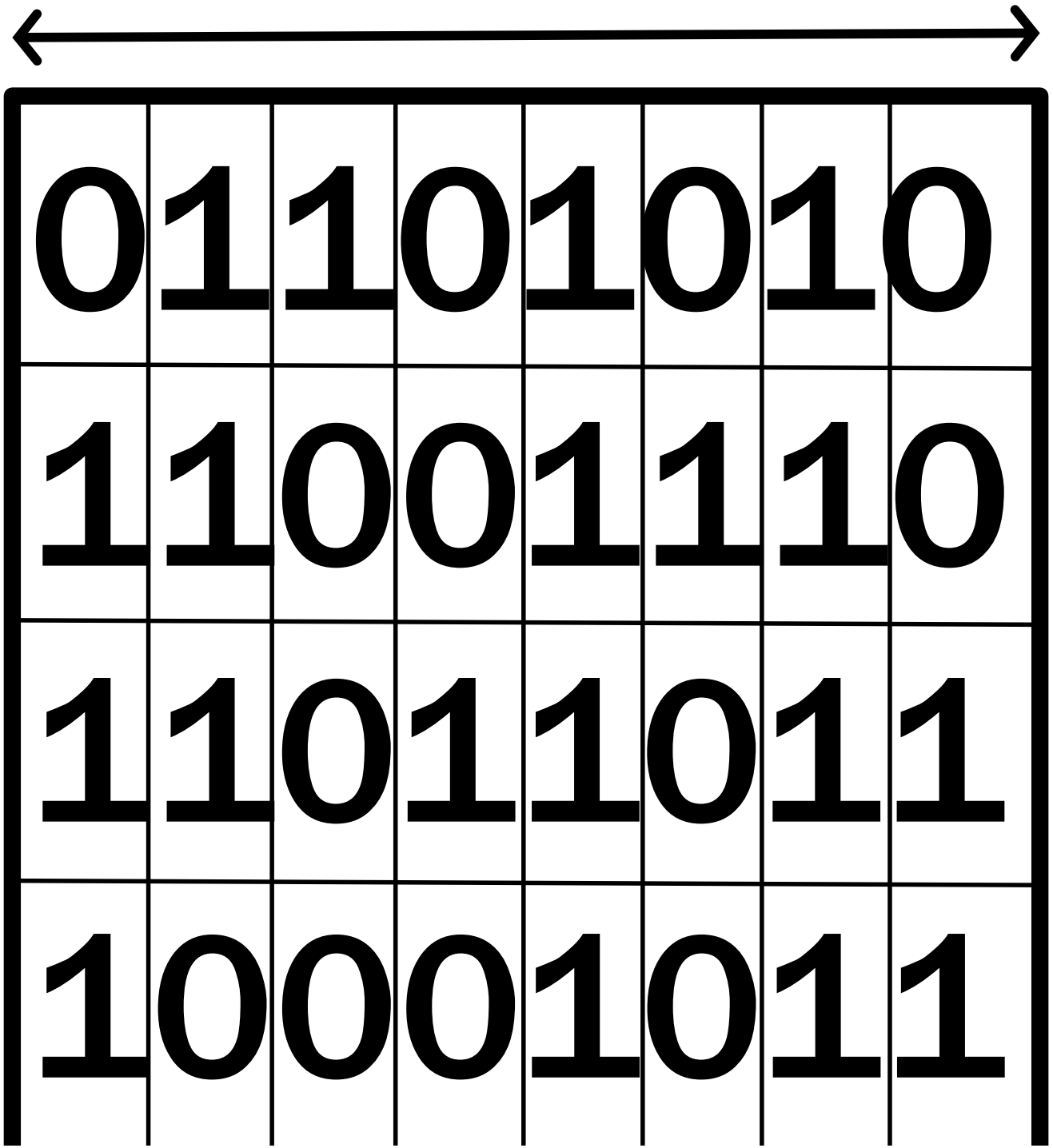

0110101010
1132 bit10
1101101011
1000010011
64 bit


bit
0
Byte
01101010

Why is 1 Byte made of 8 bits?

Choices.

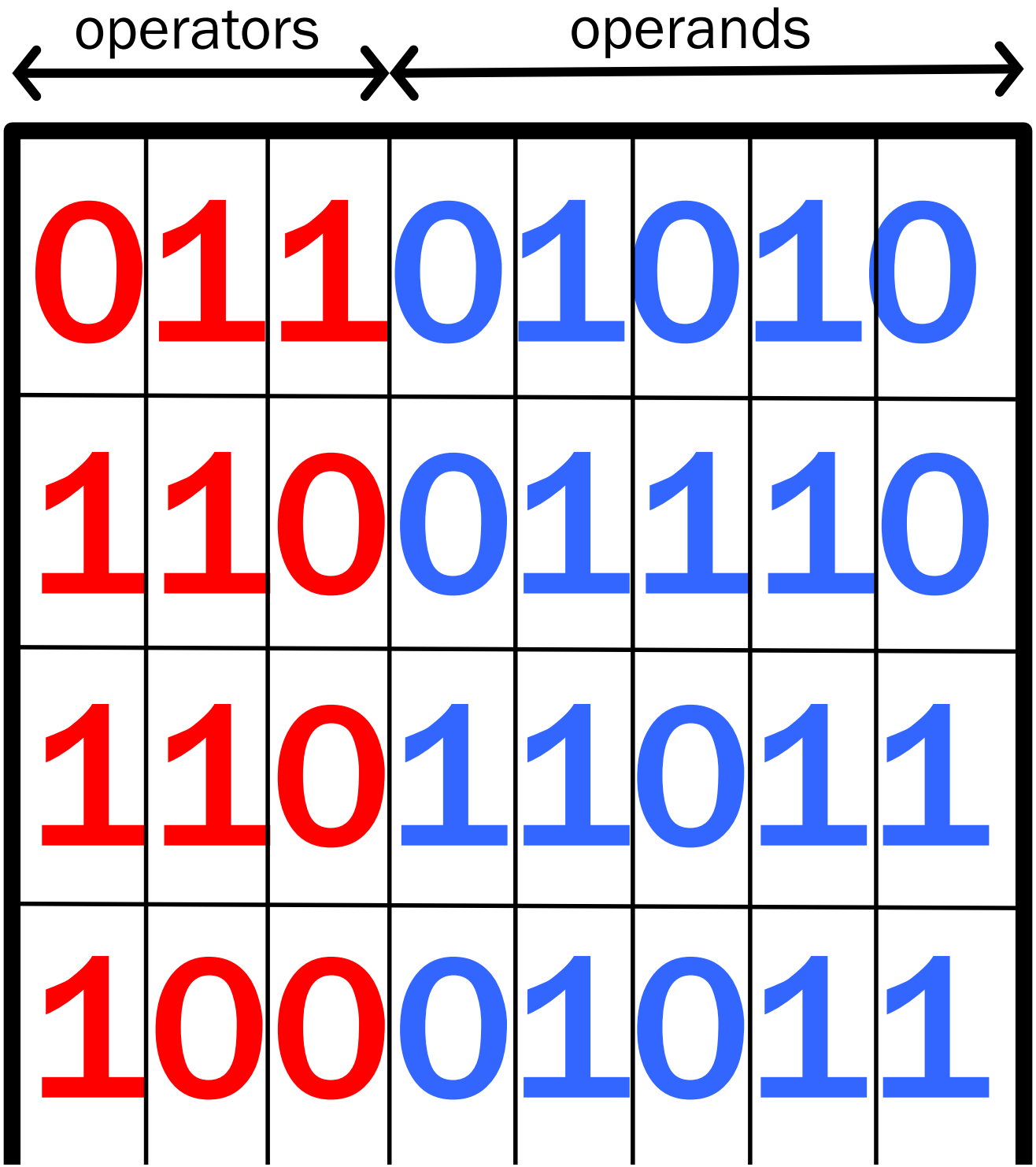
Federico Faggin, Marcian “Ted” Hoff Jr., and Stanley Mazor
with the pioneering microprocessor they created in the early 1970s, the Intel 4004

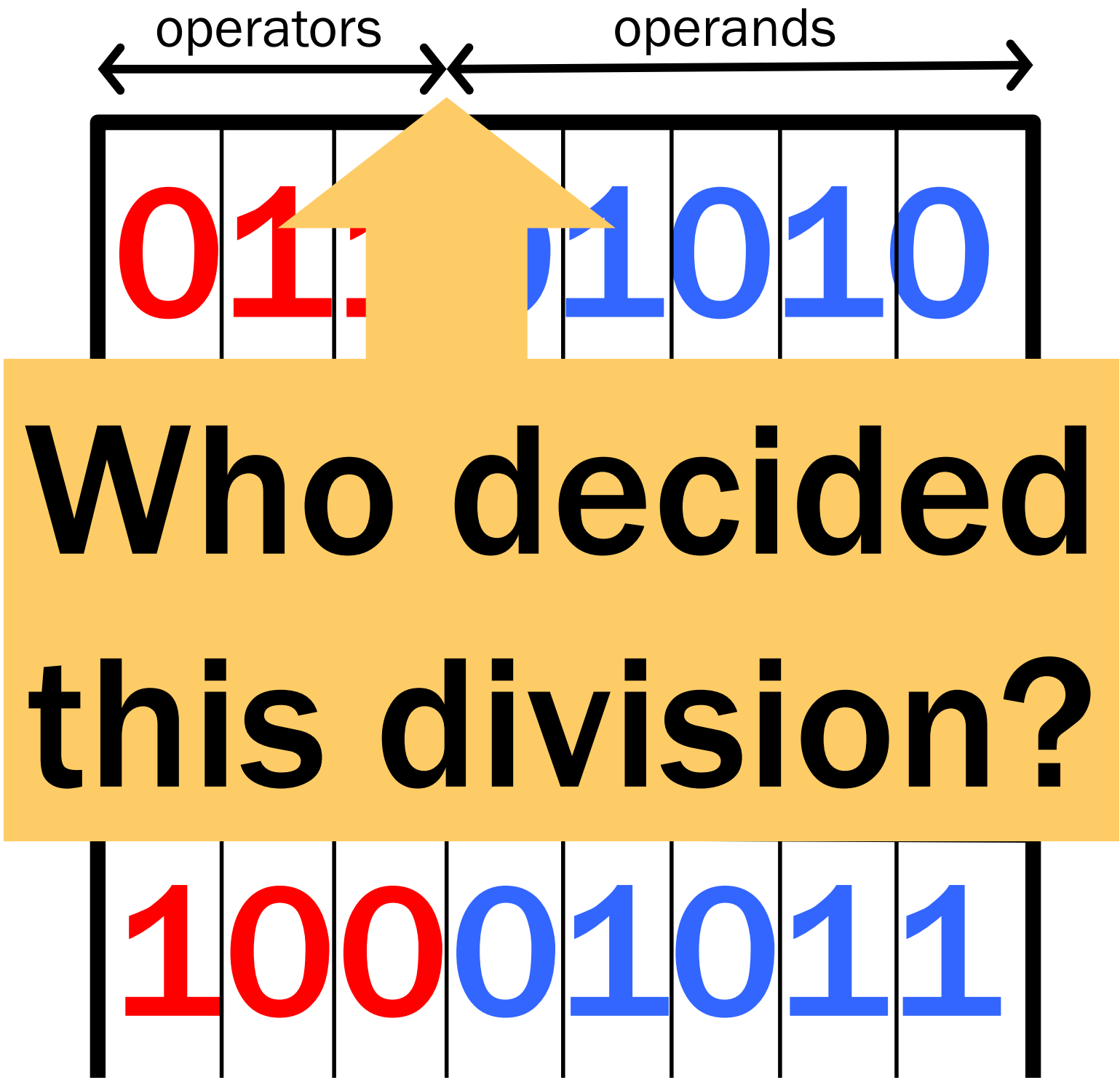

01101010
11001110
11011011
10001011

operations

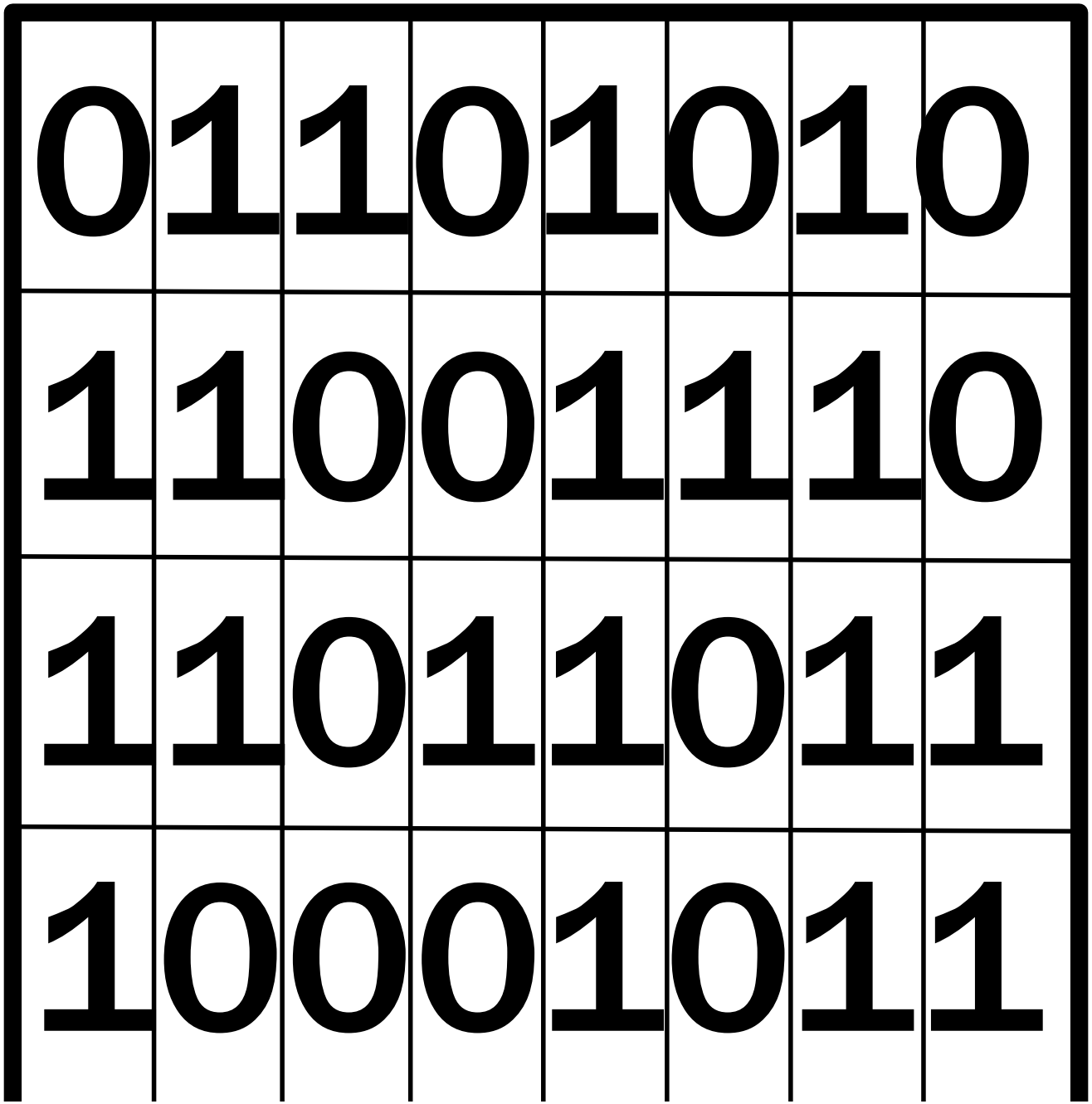
operands

352


operators
operands
0 1 1 0 1 0 1 0
1 1 0 0 1 1 1 0
1 1 0 1 1 0 1 1
1 0 0 0 1 0 1 1


operators
operands
01
1010
Who decided this division?
10001011

Again, choices.


01101010
11001110
11011011
10001011

THE STORED PROGRAM

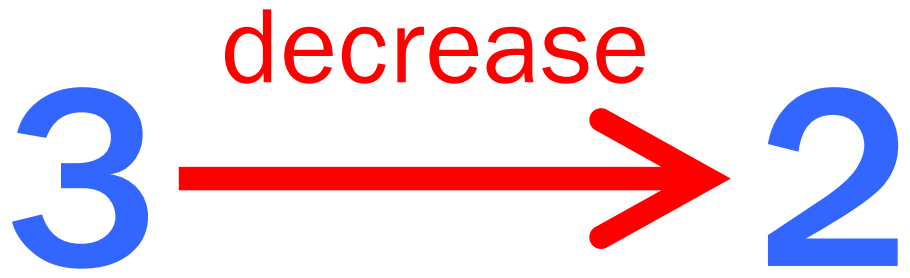
Both operations and operands can be stored in the same place.

THE STORED PROGRAM

Both operations and operands are bits stored inside words.

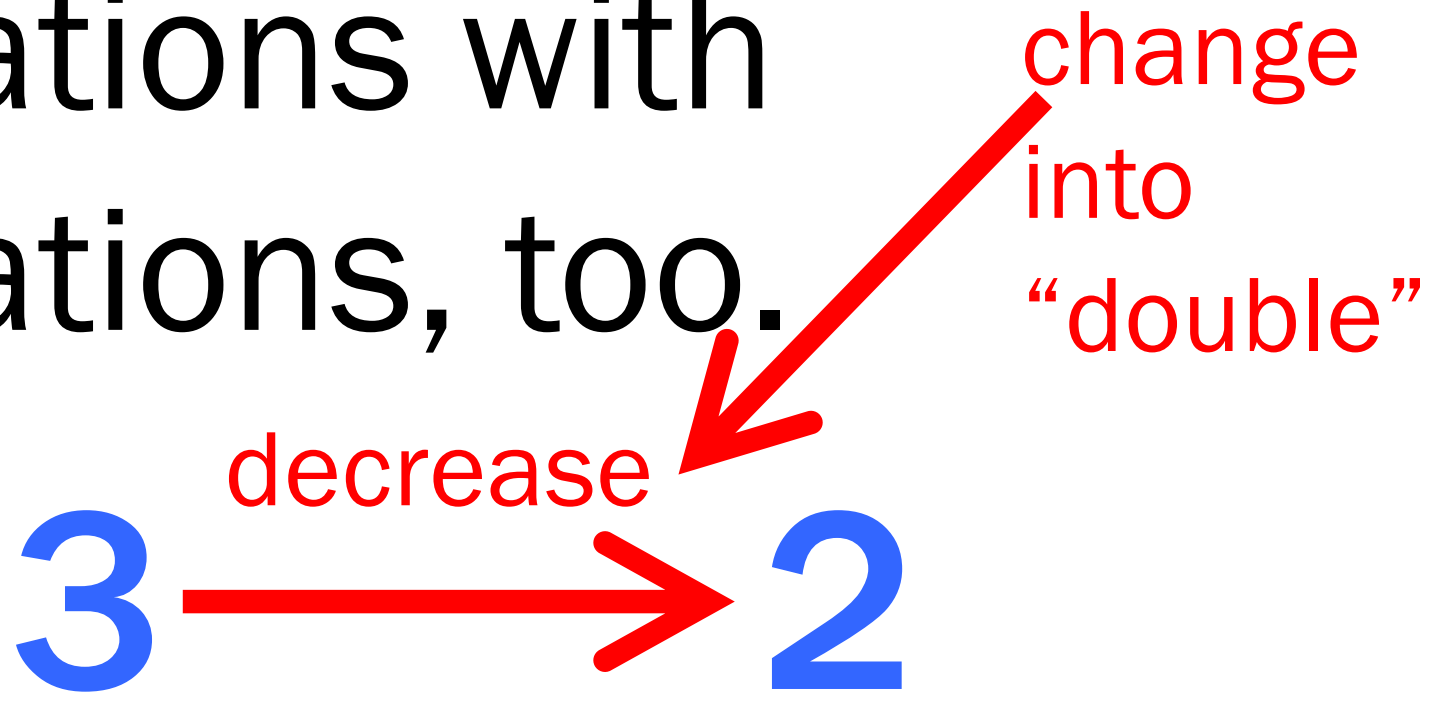
THE STORED PROGRAM

We manipulate operands with operations.



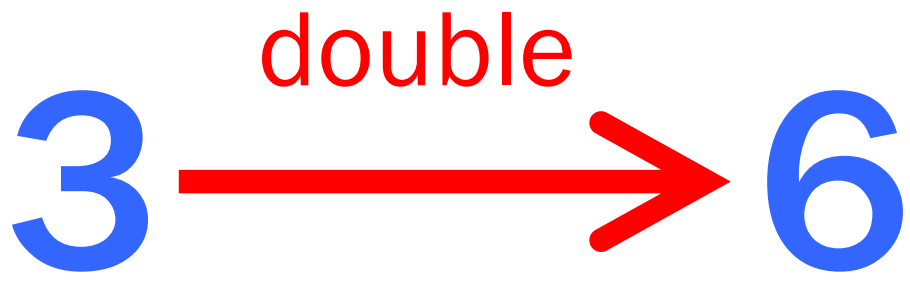
THE STORED PROGRAM

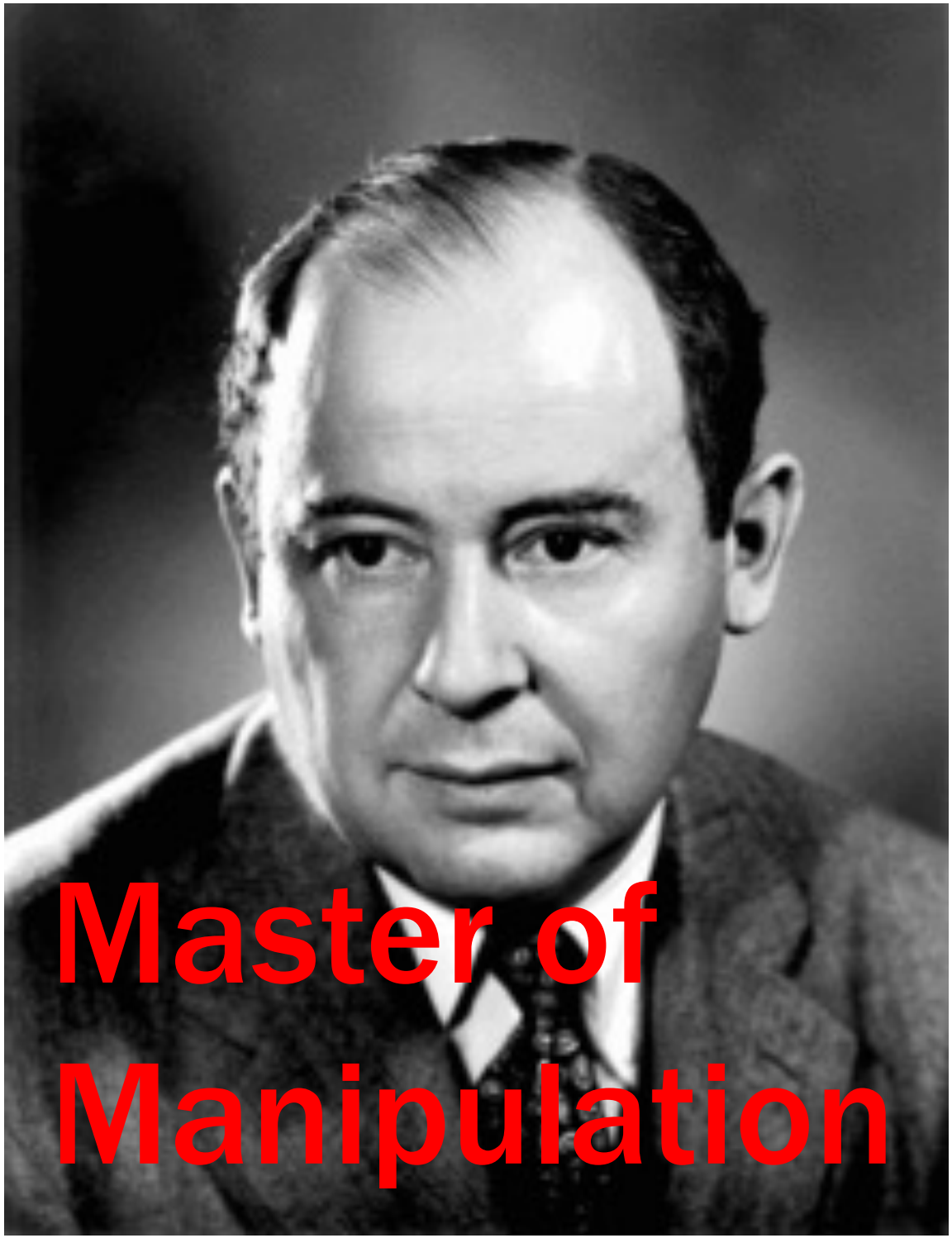
We can manipulate operations with operations, too.



THE STORED PROGRAM

We can manipulate operations with operations, too.

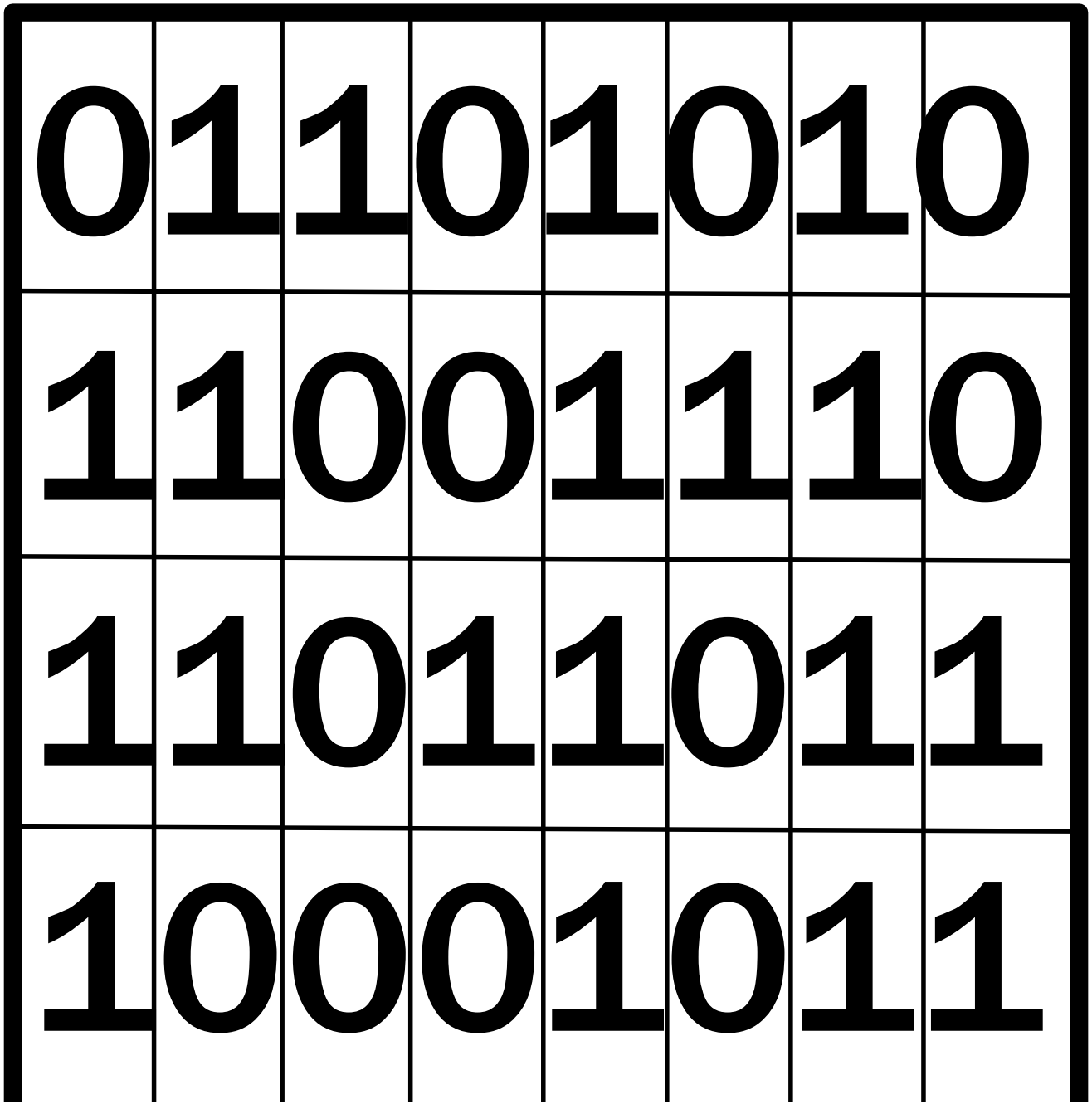


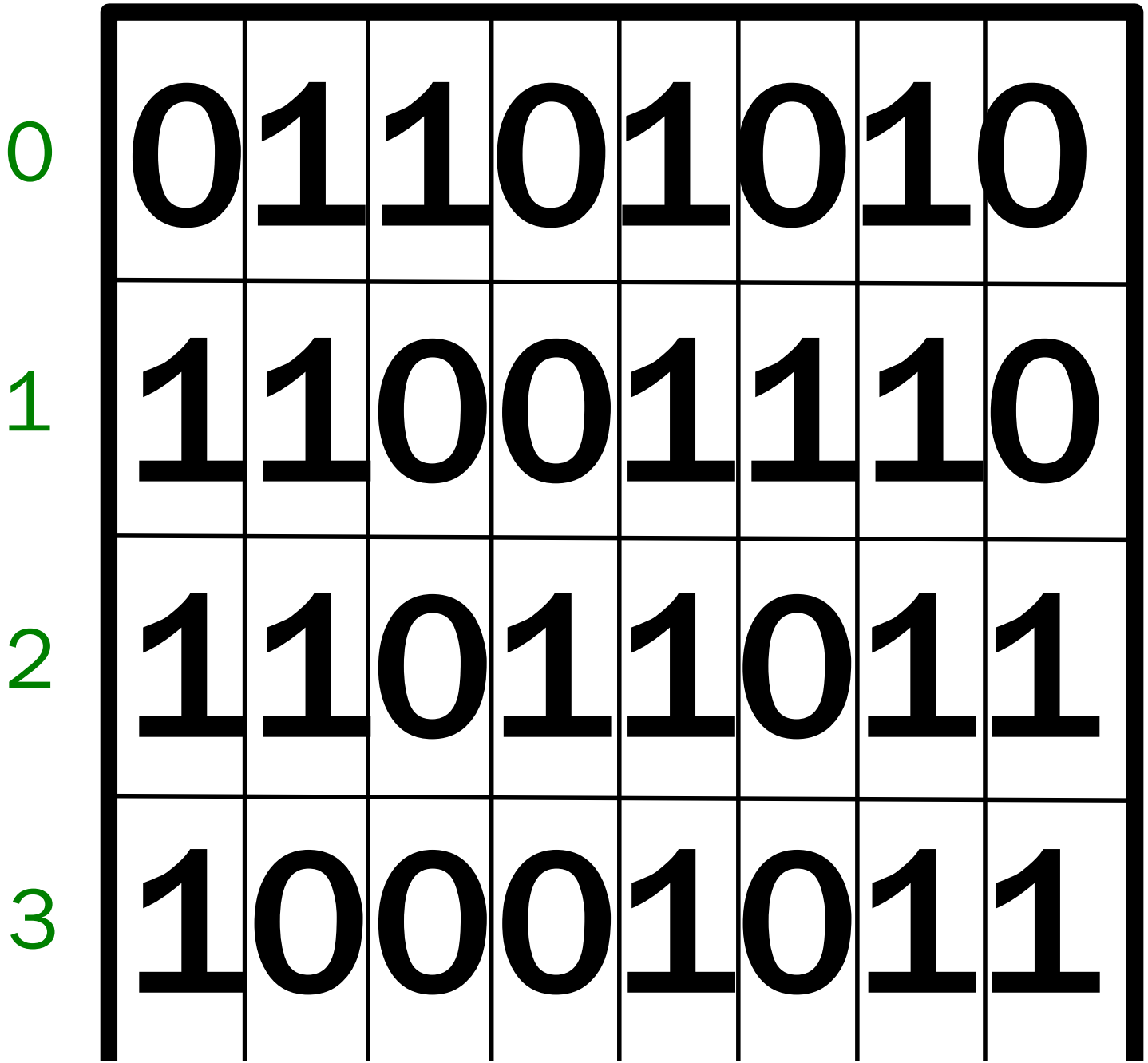

Master of
Manipulation

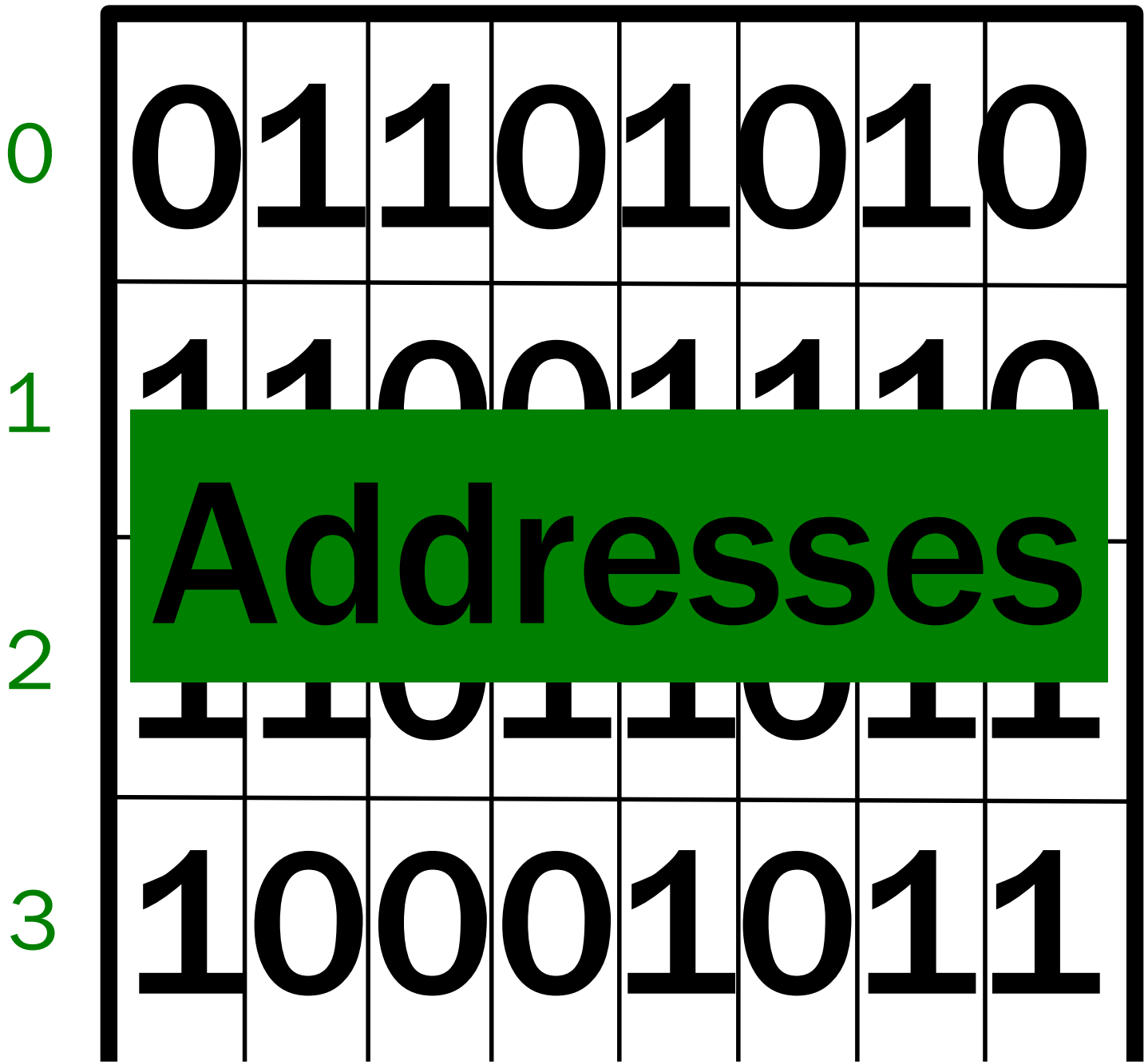
operations

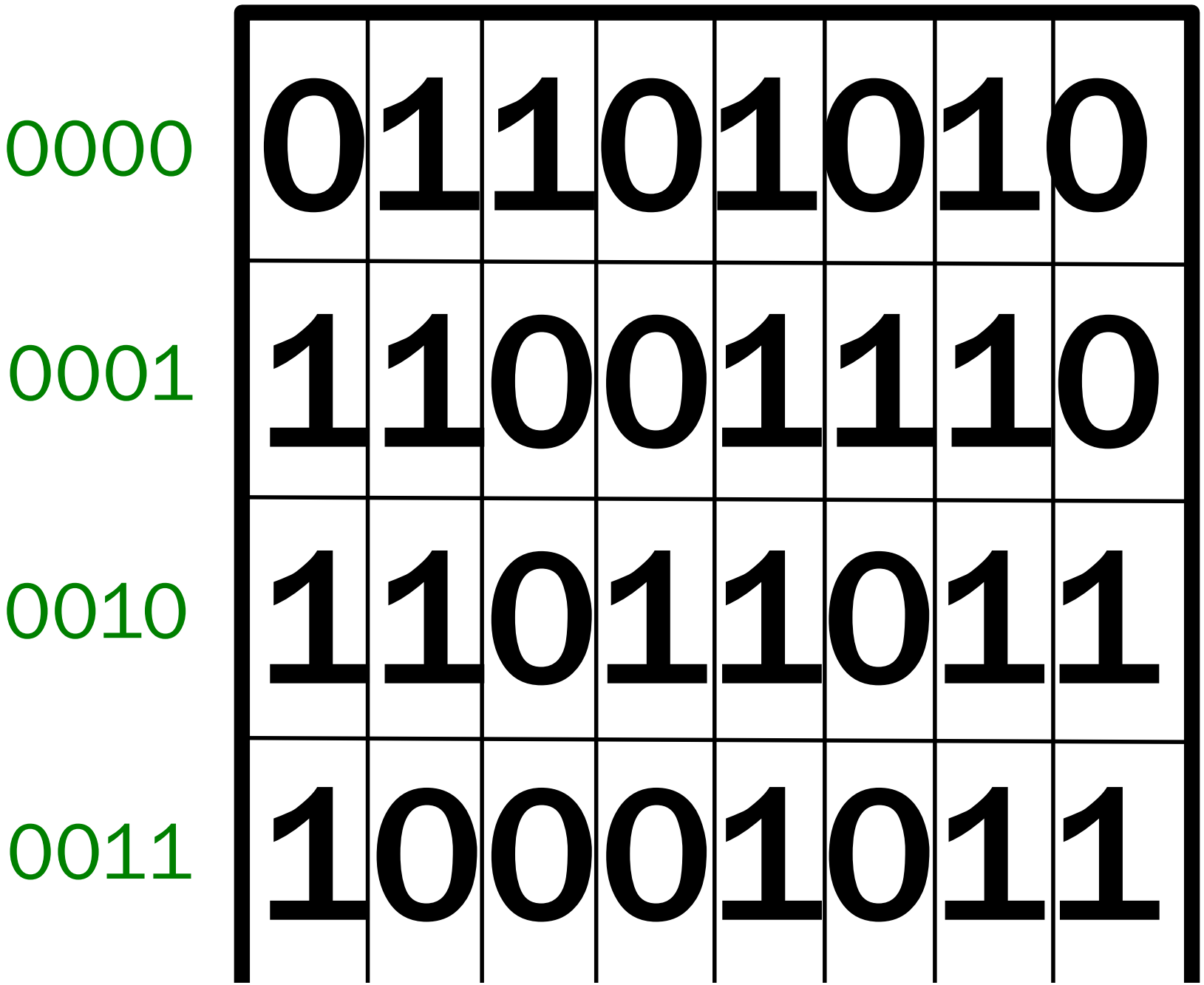
operands

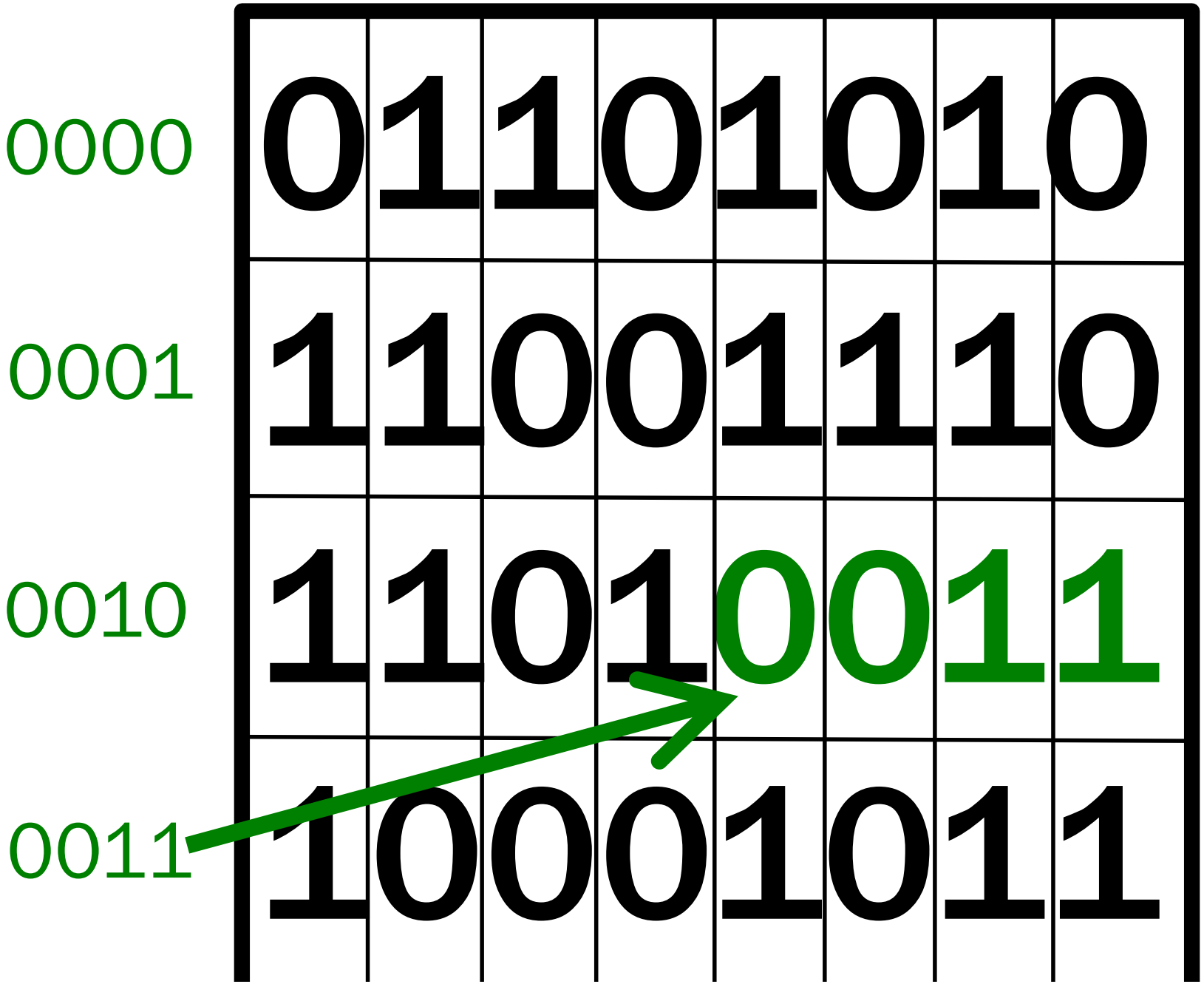
place 352


01101010
11001110
11011011
10001011


0
1
2
3
01101010
11001110
11011011
10001011


0
1
2
3
01101010
Addresses
10001011


0000
01101010
0001
11001110
0010
11011011
0011
10001011


0000
0001
0010
0011
01101010
11001110
11010011
10001011

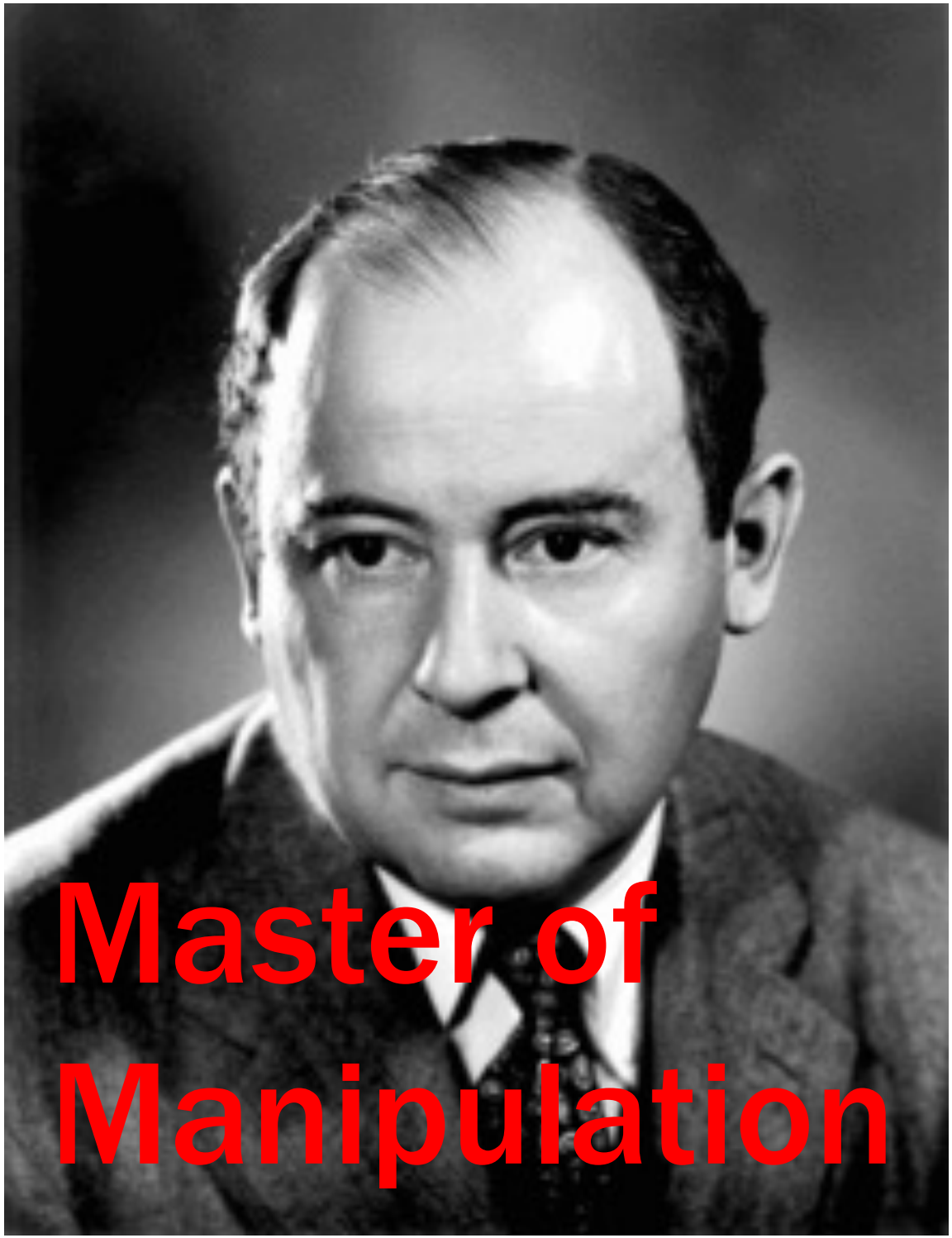
operations

operands

place 4527

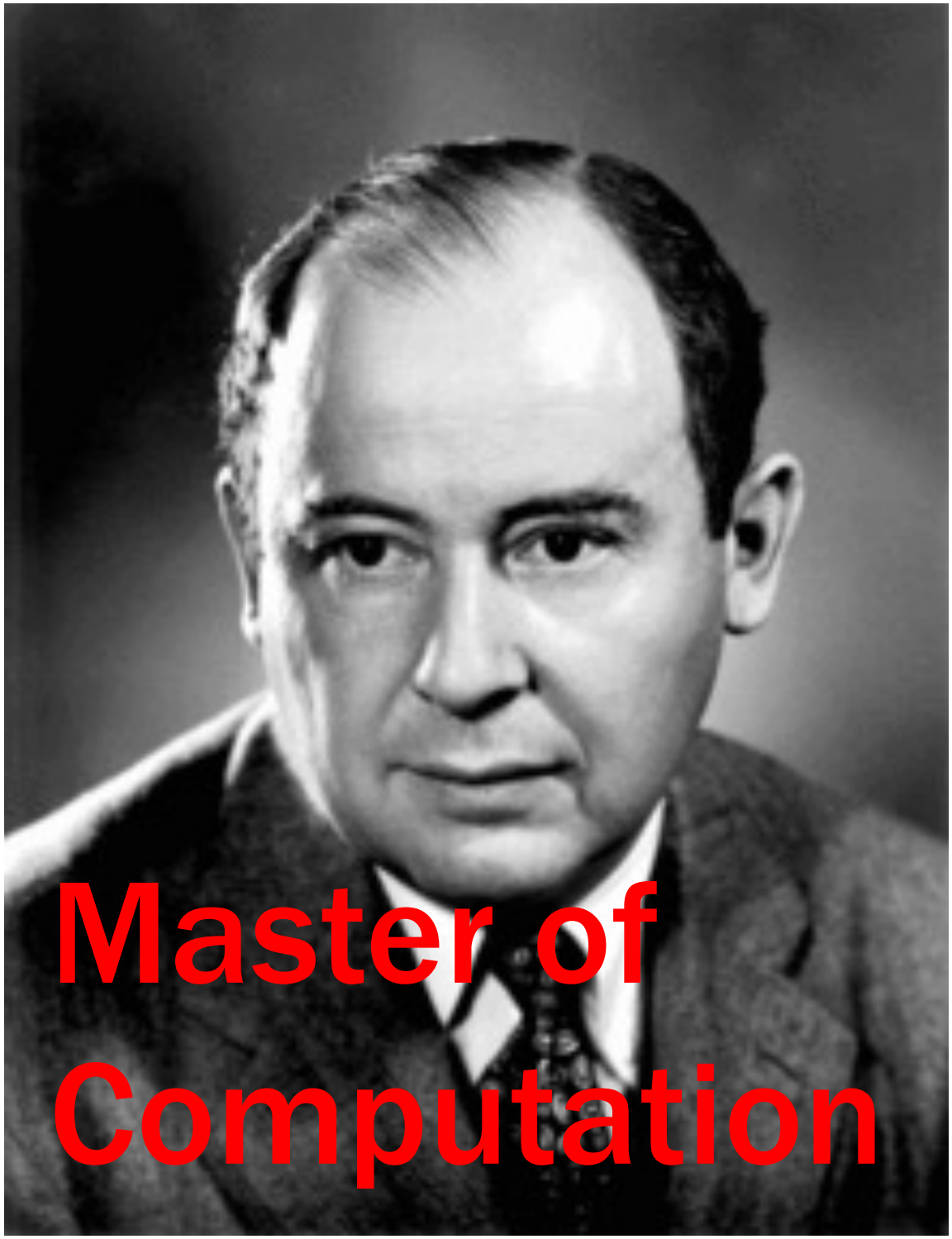
THE STORED PROGRAM

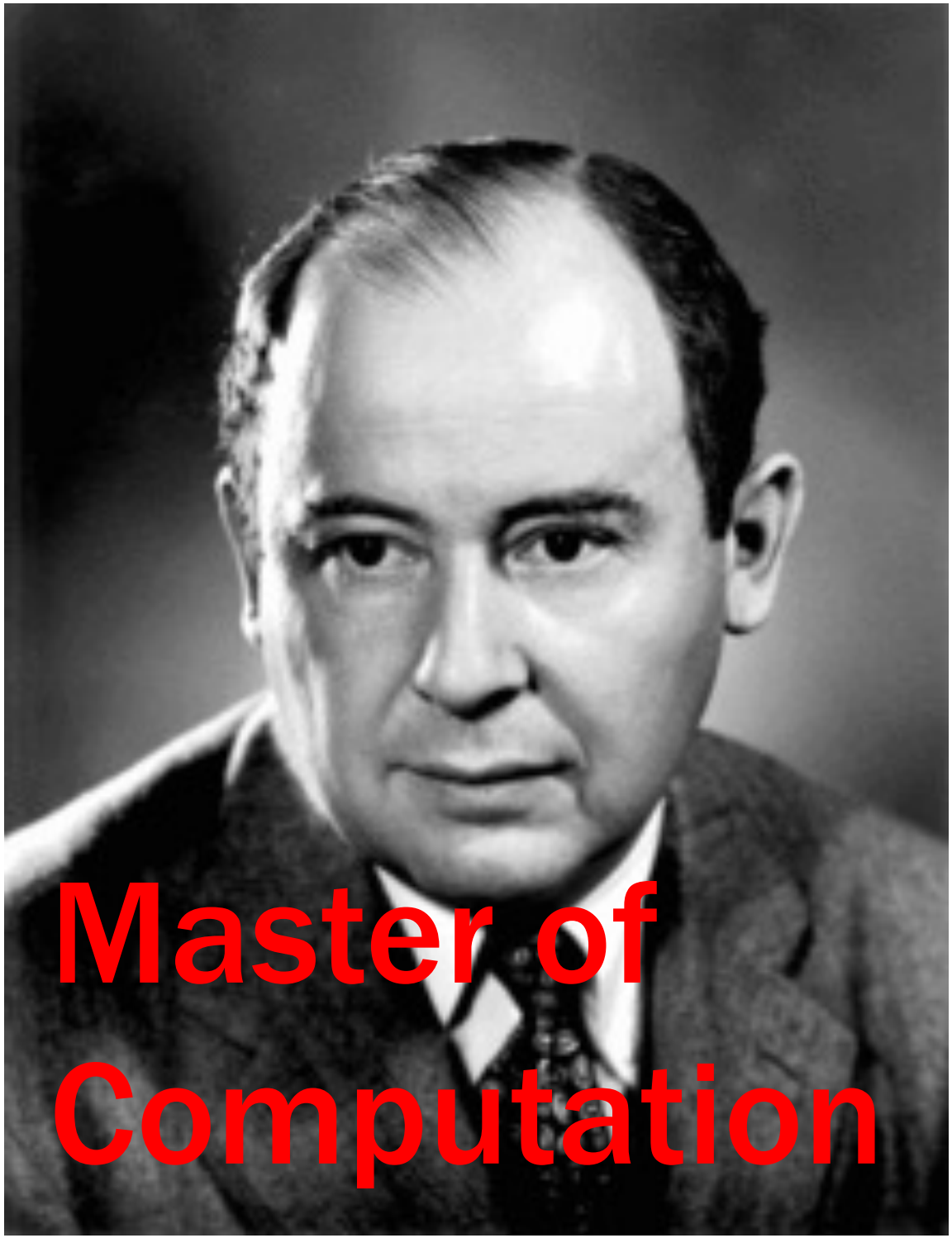
- We manipulate operands.
- We manipulate operations.
- We manipulate addresses.


Master of
Manipulation

THE STORED PROGRAM

- We elaborate data.
- We create and modify programs.
- We transfer data and programs.


Master of
Computation



(Still
an awful
person.)

The Digital in
Digital A...ion.docx

The Digital in
Digital A...ion.docx

PROGRAM

DATA

PROGRAM DATA

FILES

A file cabinet.

Google

secretary file cabinet

Smiling Vintage Secretary ...
123rf.com

Female secretary or assistant checking ...
alamy.com

Classic Solid Wood Secretar...
dutchcrafters.com · In stock

Secretary filing cabinet Sto...
masterfile.com

Smiling secretary searchi...
canstockphoto.com

Secretary desks, File cabinet desk ...
pinterest.pt

Female secretary or assistant checking ...
alamy.com

2 Drawer File Cabinet Solid Oak ...
amazon.com

Free Filing Cabinet Drawer ...
stockunlimited.com

File cabinet desk ...
pinterest.com

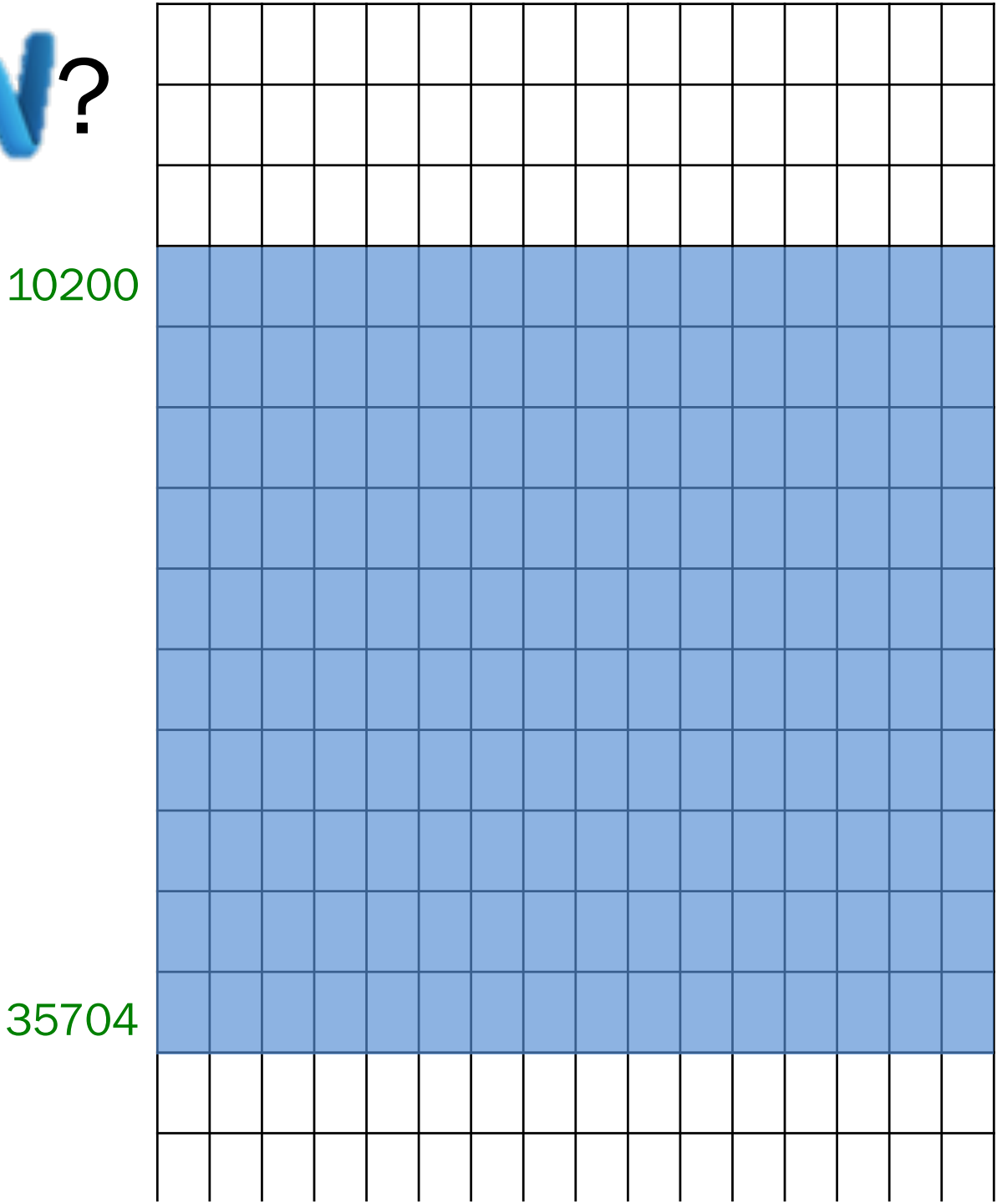
Female secretary or assist...
alamy.com

Oak secretary, file cabinet...
pinterest.it

Where is  ?

Where is W?

From word 10200 to word 35704.



11 Save Your Tears.m4a

enso.JPG

The Digital in Digital A...ion.docx

PROGRAM DATA

FILES

FILES

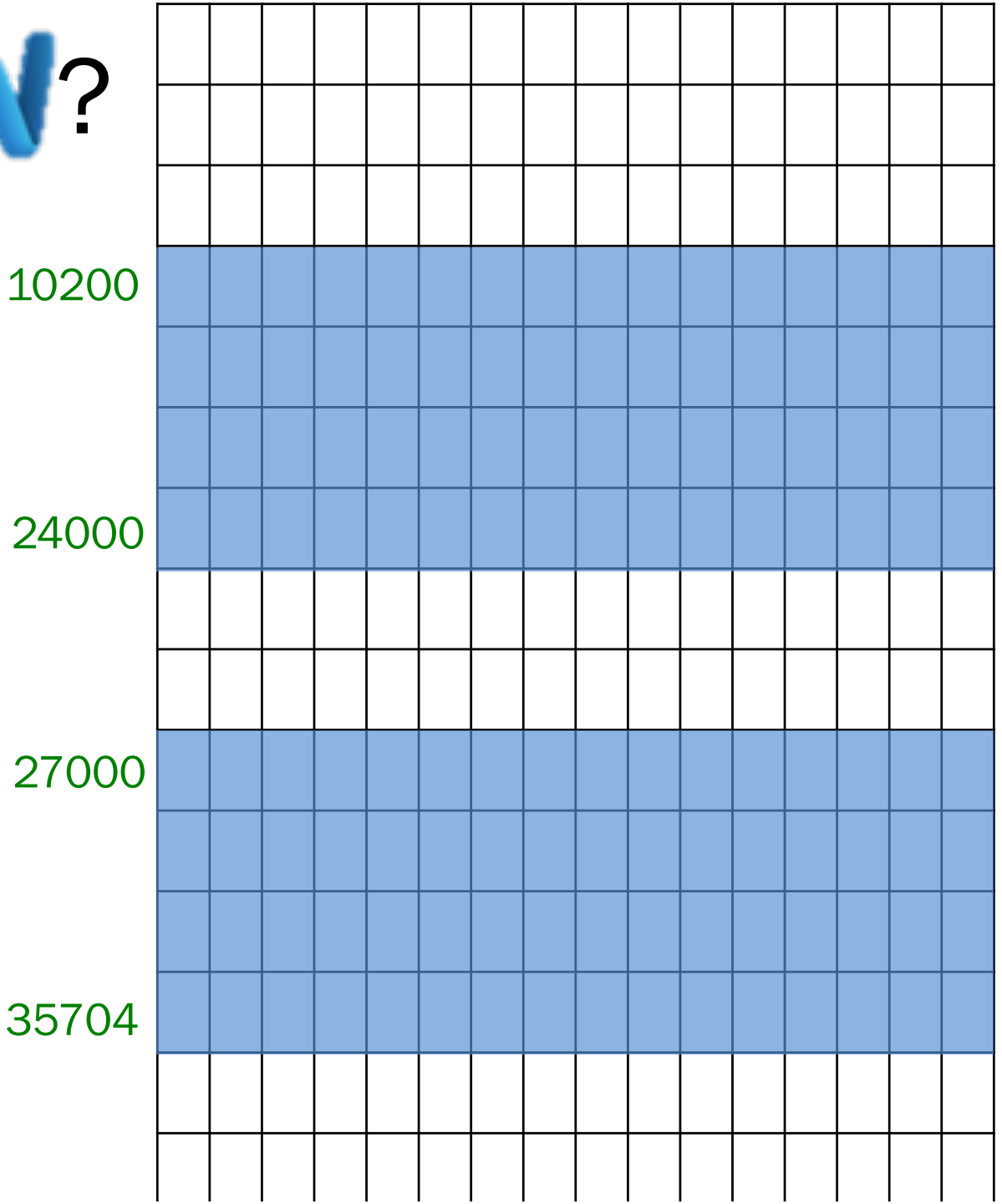
- A file is a group of bits that are logically treated as a unit.
- A file may be comprised of data, program instructions, or addresses.

FILES

- A file is a group of bits that are logically treated as a unit.
- A file may be comprised of data, program instructions, or addresses.

Where is W?

From word 10200 to word 24000 and from word 27000 to 35704.



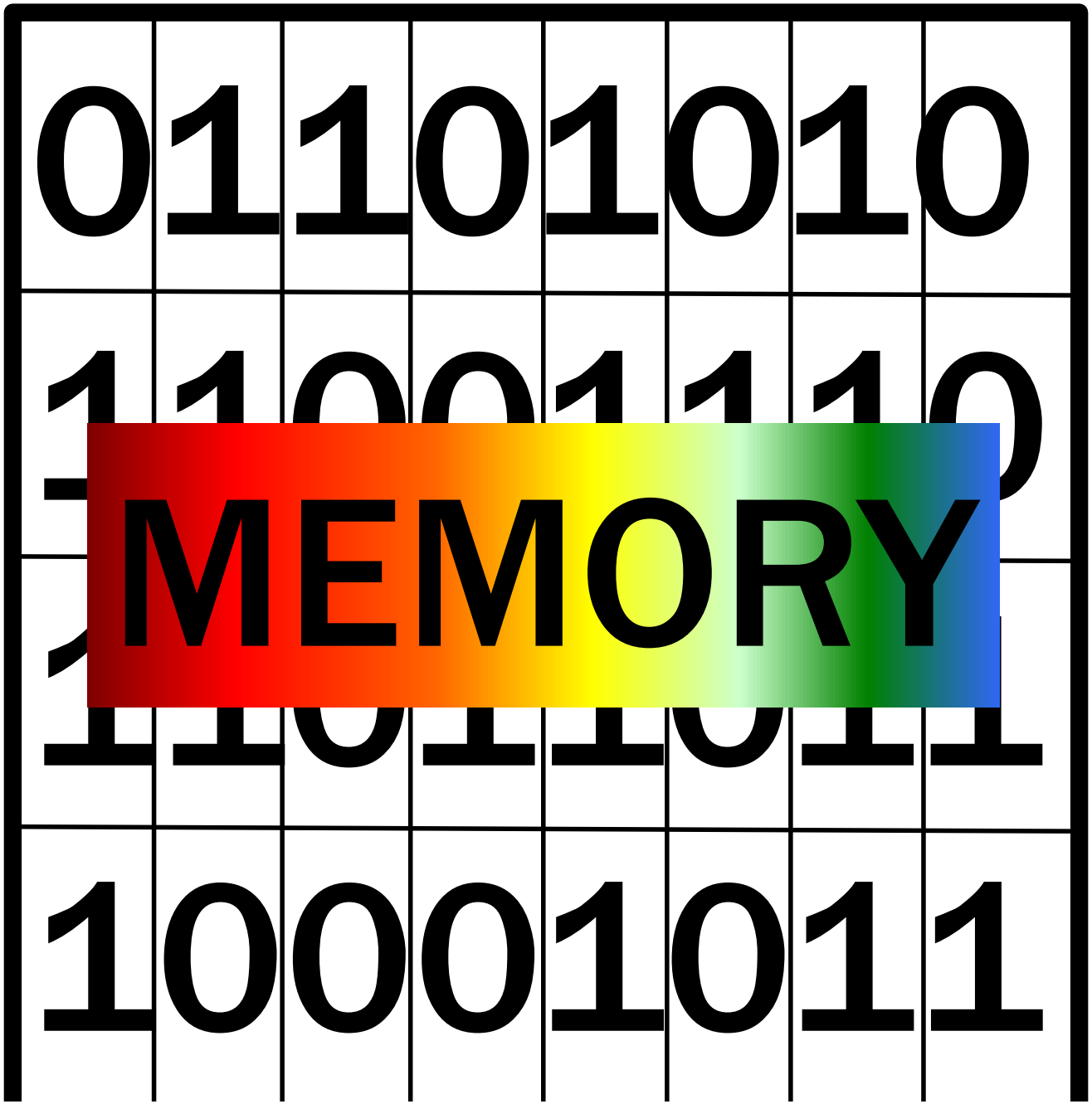
FILES

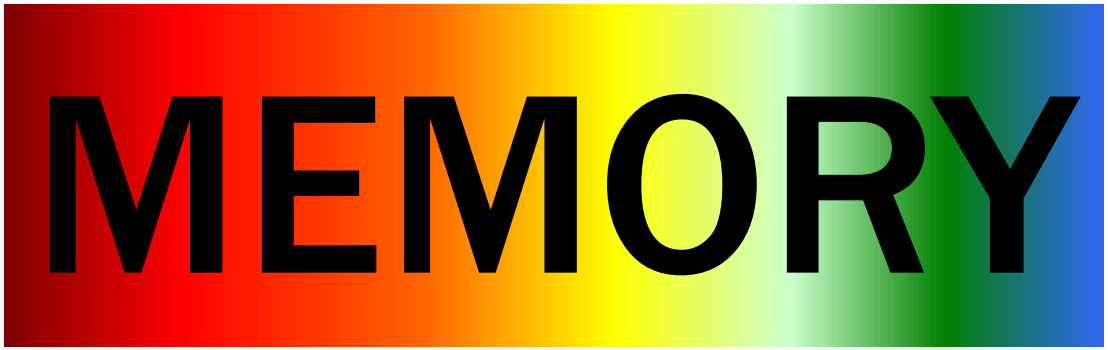
- A file is a group of bits that are logically treated as a unit.
- A file may be comprised of data, program instructions, or addresses.

Digital Humanities
@UniBG

Digital Humanities
@UniBG

FOLDER


01101010
MEMORY
10001011


MEMORY

Memory < (Greek) Mimnesko < mnè < men [the mind]

Memory < (Greek) Mimnesko < mnè < men [the mind]

Record < (Latin) Re-cordis < cor < [the heart]

Memory < (Greek) Mimnesko < mnè < men [the mind]

Record < (Latin) Re-cordis < cor < [the heart]

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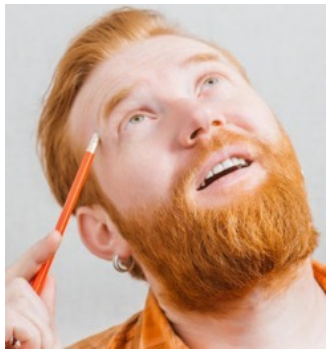
Memory < (Greek) Mimnesko < mnè < men [the mind]

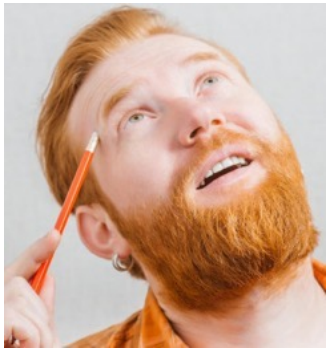
Record < (Latin) Re-cordis < cor < [the heart]

Re

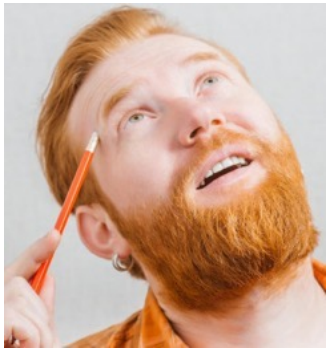
What “Re” is about.



What “Re” is about.

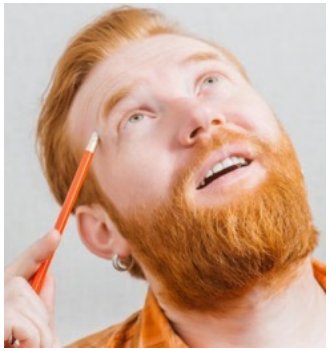


What “Re” is about.



What “Re” is about.

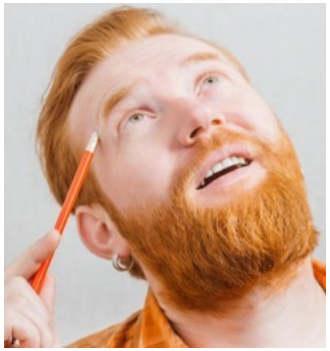
time



What “Re” is about.

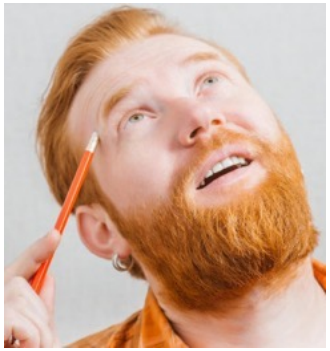
time

past
event



What “Re” is about.

time



past
event

remembering

now

What "Re" is about.

- An event

What "Re" is about.

- An event

- A description of the event

What "Re" is about.

- An event

- A description of the event

- A person who accesses the description

What is this, really?

- An event

- An event

- A description of the event

On this slide, they are both descriptions of an event.

- An event

- A description of the event

The only event here is that I am showing this slide.

- An event

An event happens.
There are people in a place,
with their bodies, their faces,
their voices.
There is music, there is dancing.
There is food, there are flowers.
There are tastes, there are smells.

- A description of an event

An event happened.
There were people in a place,
with their bodies, their faces,
their voices.
There was music, there was dancing.
There was food, there were flowers.
There were tastes, there were smells.

What "Re" is about.

- An event

- A description of the event

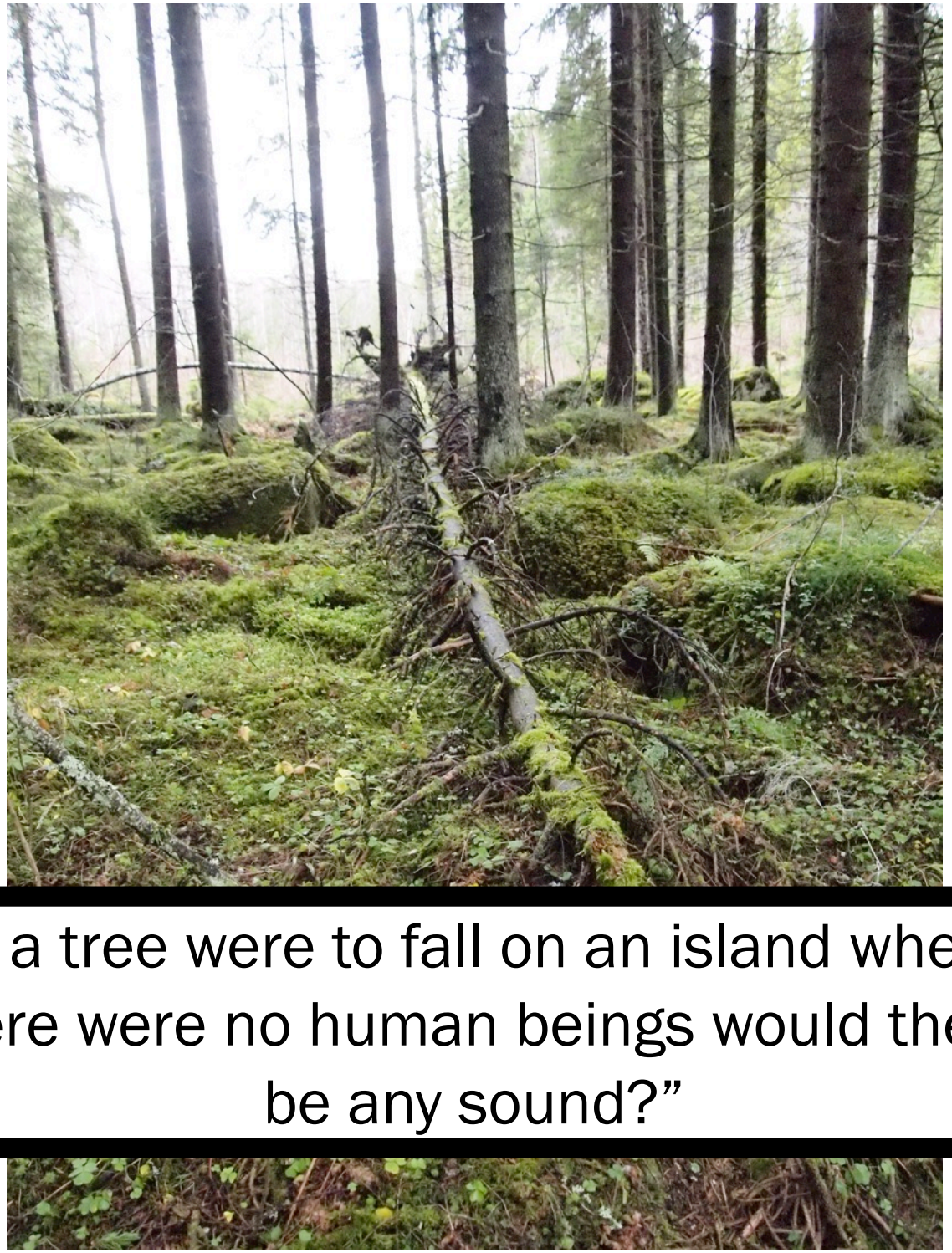
- A person who accesses the description

What about the person?

- An event

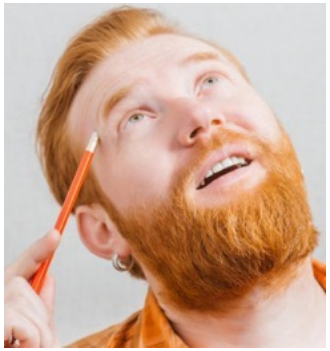
- A description of the event

- A person who accesses the description

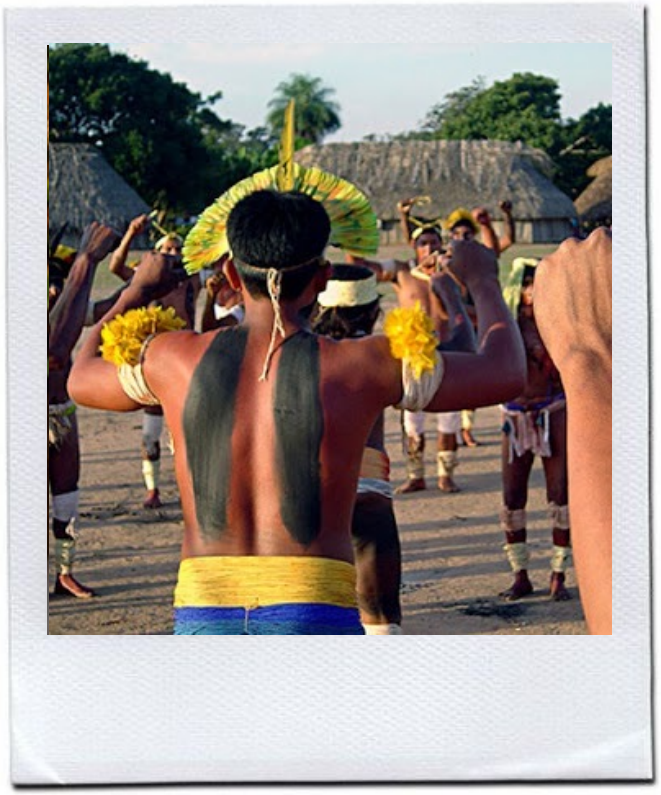


“If a tree were to fall on an island where there were no human beings would there be any sound?”

“If a Polaroid picture were to be on an island where there were no human beings would there be any memory?”

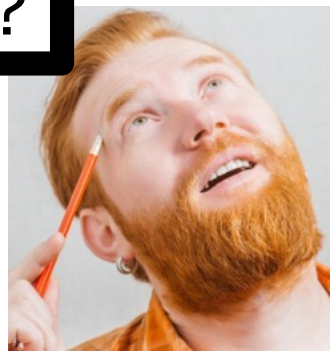


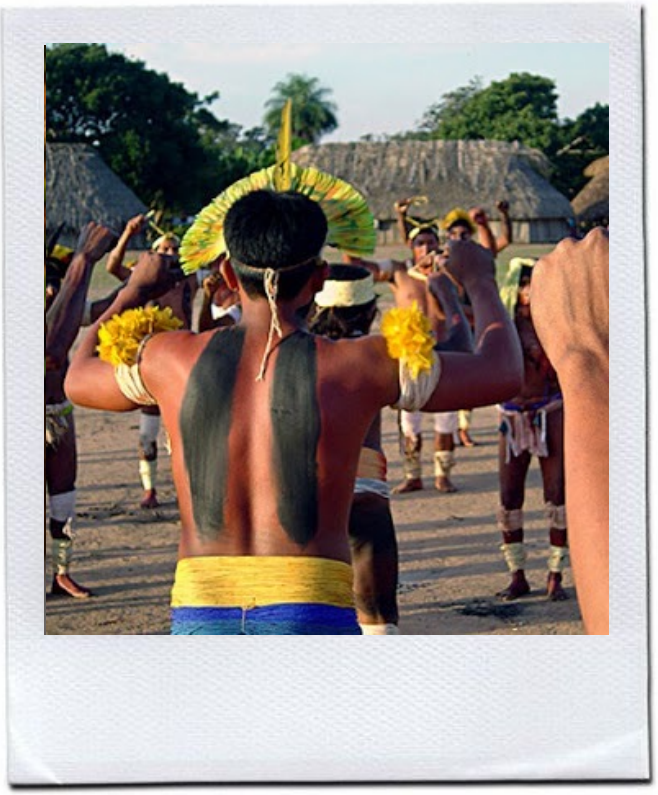
1. There is a relation between the person accessing the description and the content of the description



?

?





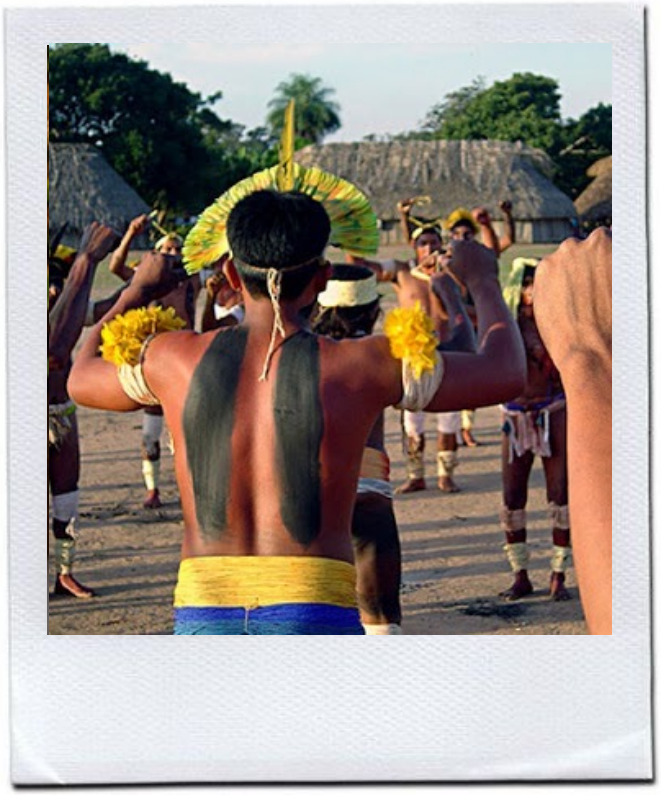
?

?

«A person cannot remember an event in which they didn’t participate!»

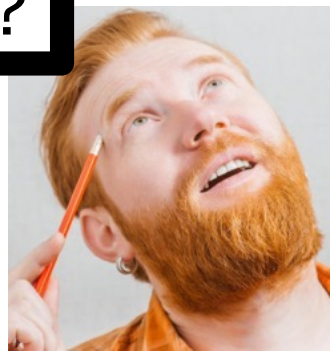
MEMORY

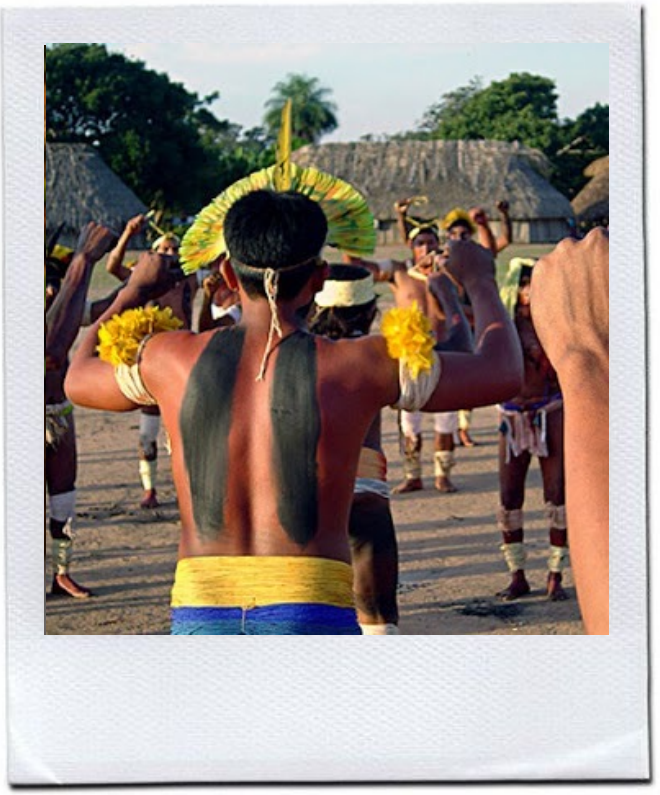
Memories are not only about a single person. Memories can be about a family, a nation, a culture, the human race.



?

?





!

!

time

past
event

remembering
now

time

past
event

remembering
in the future

time

past
event

remembering
in the far future

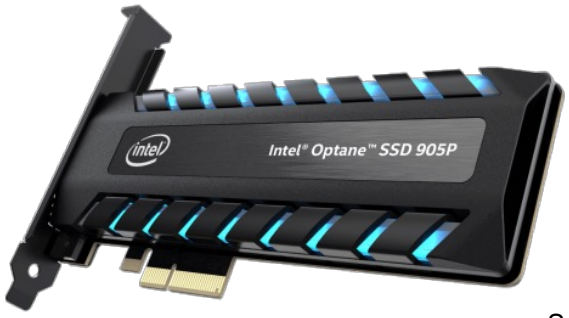
2. There is a relation between the person accessing the description and the container of the description


time

Is a person still able to access the description of an event? Will the container of that description stand the test of time?

Digital Memory Devices

USB key



Solid State Disk

RAM

CD/DVD

SD card

Magnetic
Hard Disk

Digital Memory Devices

USB key

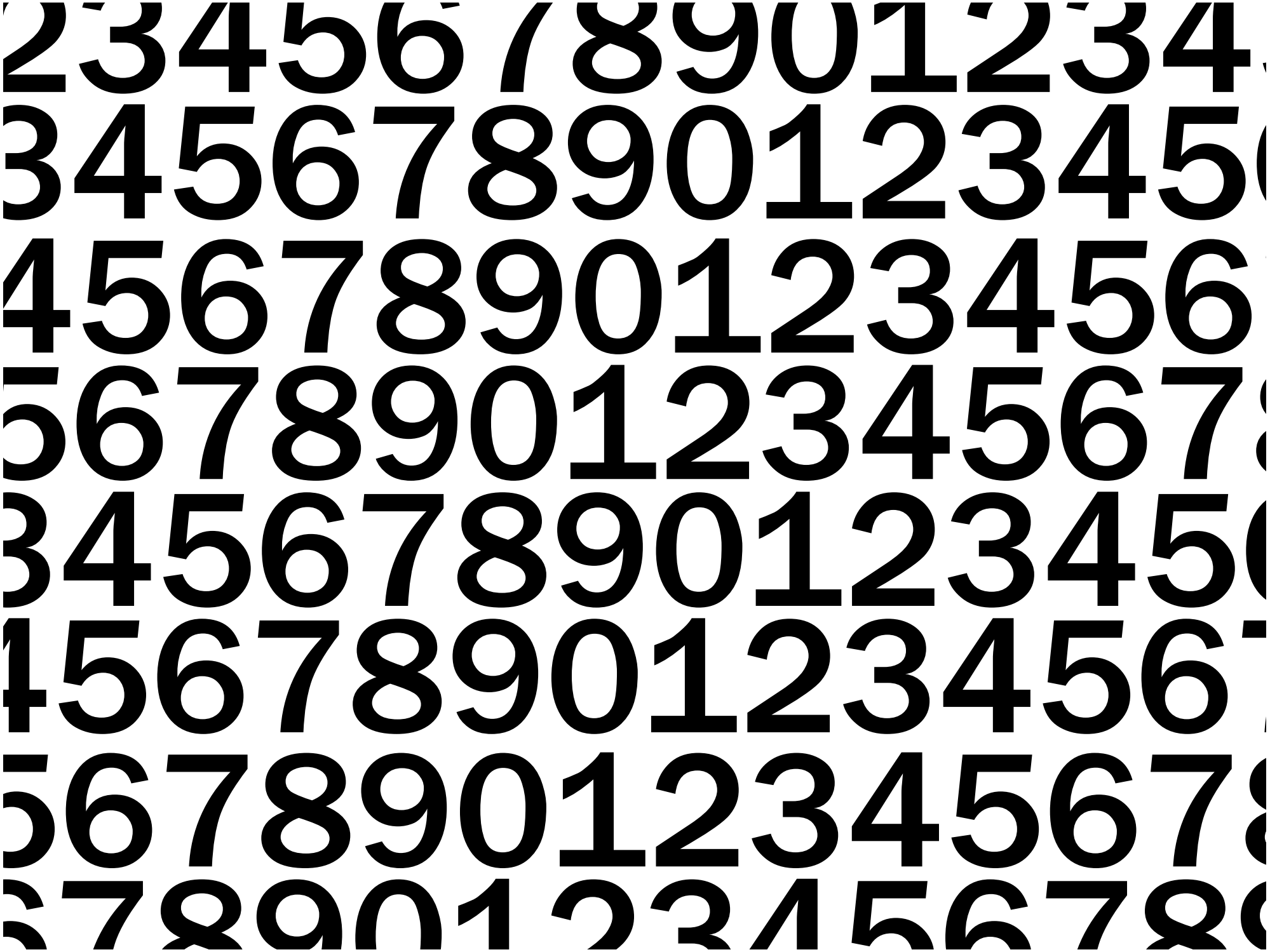
Solid State Disk

RAM

CD/DVD

SD card

Magnetic
Hard Disk


23456789012345
34567890123456
45678901234567
56789012345678
34567890123456
45678901234567
56789012345678
78901234


LACIE


LACIE

USASCII code chart

Bits: b_7 b_6 b_5 →					0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
b_4	b_3	b_2	b_1	Row ↓ Column →	0	1	2	3	4	5	6	7
0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
0	0	0	1	1	SOH	DC1	!	1	A	Q	a	q
0	0	1	0	2	STX	DC2	"	2	B	R	b	r
0	0	1	1	3	ETX	DC3	#	3	C	S	c	s
0	1	0	0	4	EOT	DC4	$	4	D	T	d	t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e	u
0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
0	1	1	1	7	BEL	ETB	'	7	G	W	g	w
1	0	0	0	8	BS	CAN	(	8	H	X	h	x
1	0	0	1	9	HT	EM	)	9	I	Y	i	y
1	0	1	0	10	LF	SUB	*	:	J	Z	j	z
1	0	1	1	11	VT	ESC	+	;	K	[	k	{
1	1	0	0	12	FF	FS	,	<	L	\	l	|
1	1	0	1	13	CR	GS	-	=	M	]	m	}
1	1	1	0	14	SO	RS	.	>	N	^	n	~
1	1	1	1	15	SI	US	/	?	O	_	o	DEL

USASCII code chart

Bits b_7 b_6 b_5 →	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
b_4 b_3 b_2 b_1 ↓ Row ↓ Column →	0	1	2	3	4	5	6	7
0 0 0 0 0	NUL	DLE	SP	0	@	P	`	p
0 0 0 1 1	SOH	DC1	!	1	A	Q	a	q
0 0 1 0 2	STX	DC2	"	2	B	R	b	r
0 0 1 1 3	ETX	DC3	#	3	C	S	c	s
0 1 0 0 4	EOT	DC4	$	4	D	T	d	t
0 1 0 1 5	ENQ	NAK	%	5	E	U	e	u
0 1 1 0 6	ACK	SYN	&	6	F	V	f	v
0 1 1 1 7	BEL	ETB	'	7	G	W	g	w
1 0 0 0 8	BS	CAN	(	8	H	X	h	x
1 0 0 1 9	HT	EM	)	9	I	Y	i	y
1 0 1 0 10	LF	SUB	*	:	J	Z	j	z
1 0 1 1 11	VT	ESC	+	;	K	[	k	{
1 1 0 0 12	FF	FS	,	<	L	\	l	|
1 1 0 1 13	CR	GS	-	=	M	]	m	}
1 1 1 0 14	SO	RS	.	>	N	^	n	~
1 1 1 1 15	SI	US	/	?	O	_	o	DEL

USASCII code chart

Bits b7 b6 b5	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
b4 b3 b2 b1 / Row ↓ Column →	0	1	2	3	4	5	6	7
0 0 0 0	0	NUL	DLE	SP	0	@	P	`	p
0 0 0 1	1	SOH	DC1	!	1	A	Q	a	q
0 0 1 0	2	STX	DC2	"	2	B	R	b	r
0 0 1 1	3	ETX	DC3	#	3	C	S	c	s
0 1 0 0	4	EOT	DC4	$	4	D	T	d	t
0 1 0 1	5	ENQ	NAK	%	5	E	U	e	u
0 1 1 0	6	ACK	SYN	&	6	F	V	f	v
0 1 1 1	7	BEL	ETB	'	7	G	W	g	w
1 0 0 0	8	BS	CAN	(	8	H	X	h	x
1 0 0 1	9	HT	EM	)	9	I	Y	i	y
1 0 1 0	10	LF	SUB	*	:	J	Z	j	z
1 0 1 1	11	VT	ESC	+	;	K	[	k	{
1 1 0 0	12	FF	FS	,	<	L	\	l	|
1 1 0 1	13	CR	GS	-	=	M	]	m	}
1 1 1 0	14	SO	RS	.	>	N	^	n	~
1 1 1 1	15	SI	US	/	?	O	_	o	DEL

time

time

Proposal for marker of nuclear waste repository.
("Into Eternity", by Micheal Madsen, 2010)

10000 years