

WAYS TO MEASURE INFORMATION A BINARY DIGIT

Lecture 3



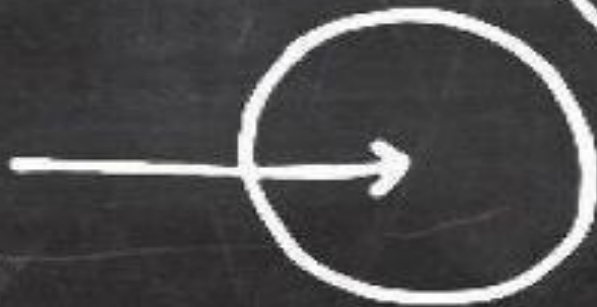
HOME TASKS

1. How can we measure information?
2. What's the bit?
3. Give some examples of signs, things and agents.

YOU ARE NOW LEAVING
THE COMFORT
ZONE



Your
Comfort
Zone



Where the
magic happens

BINARY DIGITS

0, 1

DECIMAL DIGITS

0, 1, 2, 3, 4,
5, 6, 7, 8, 9

A NUMBER

123

$$1 * 100 + 2 * 10 + 3 * 1 = 123$$

A NUMBER

123

$100 + 20 + 3$

$1 * 100 + 2 * 10 + 3 * 1$

NUMBER SYSTEM

1000 100 10 1
 10^3 10^2 10^1 10^0

16 8 4 2 1
 2^4 2^3 2^2 2^1 2^0

HOW TO KEEP THE BITS?



SWITCH



MEMORY



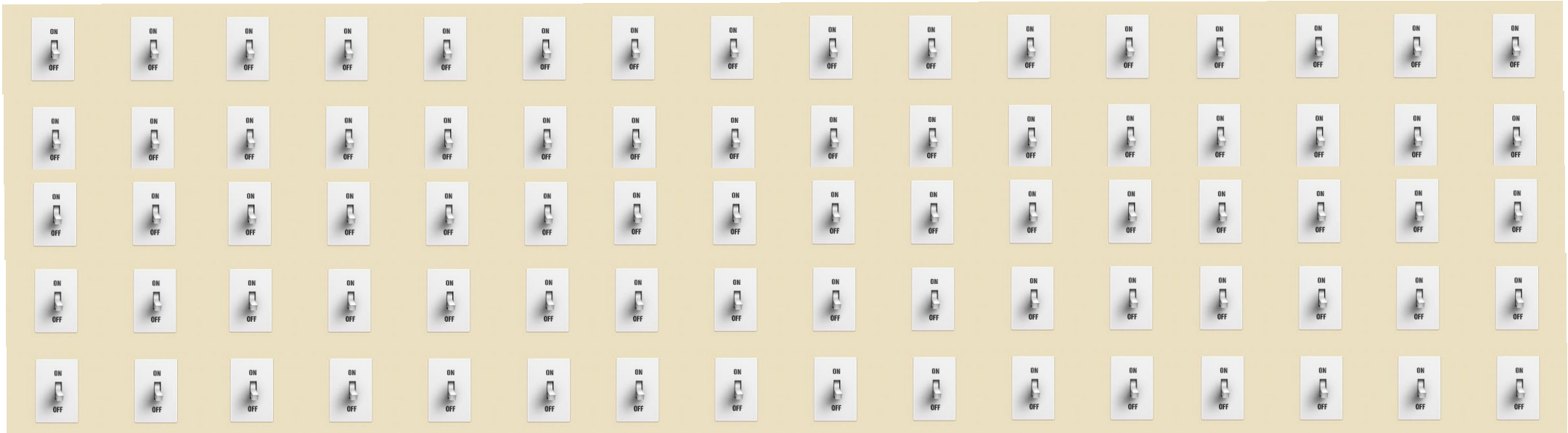
MEMORY



MEMORY



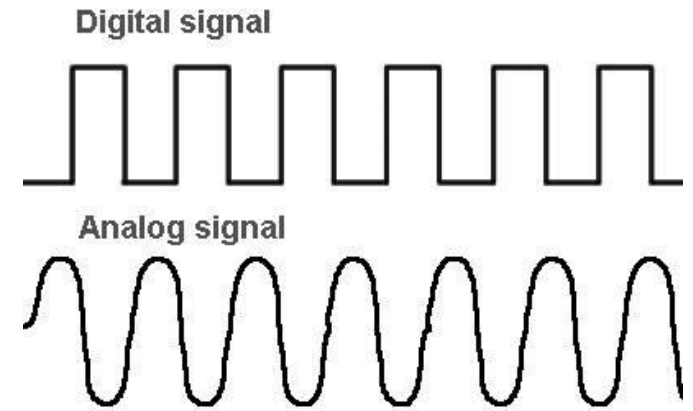
MEMORY



DIGITAL MEMORY



DIGITAL VERSUS ANALOG



- Digital is used to convey the notion of discrete objects/values
 - Things we can count
 - Digital information is equivalent to symbolic information
- Analog (or Analogue) - Information transmission via electrical, mechanical, hydraulic, and sound signals
 - Continuously varying signals which are not countable



HOME TASKS

1. What's a digital device?
2. Which types of information can a digital device keep?
3. How can you save in digit view all types of information?