

Data representation

Take a look at the online museum

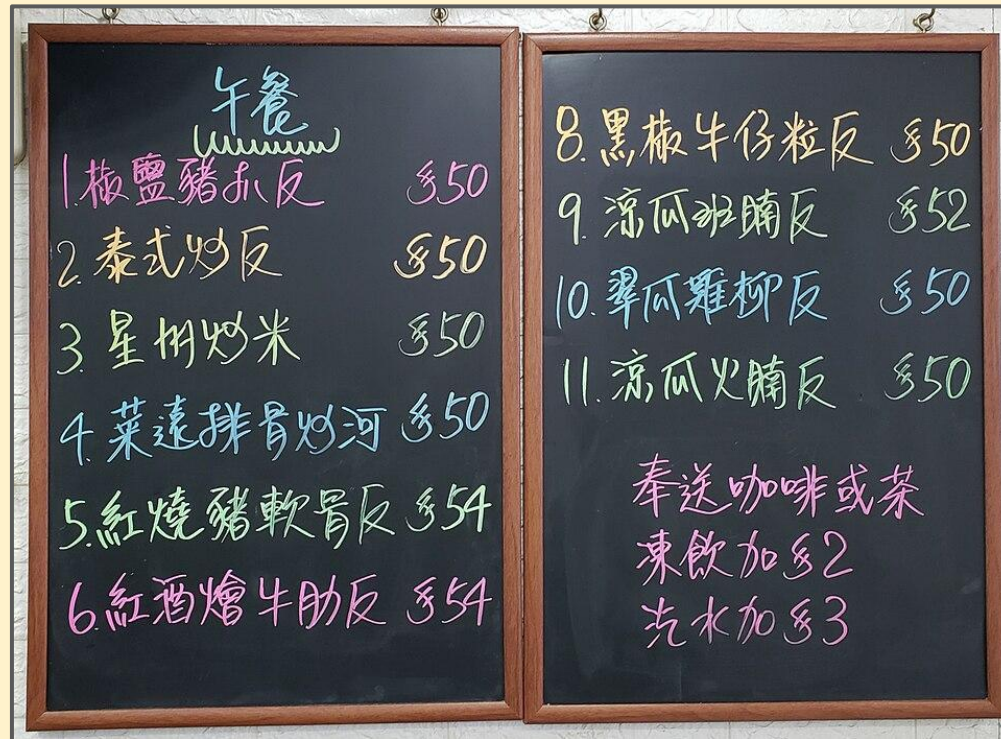
The exhibits all show early forms of writing

On your slides:

1. What did people write on?
2. How did people write?
3. What types of characters did they use?
4. How are these different from the codes you used earlier in the lesson?

Data representation

It was really important that other people understood what each character meant



People had to agree on the meanings first

Data representation

On your slides:

5. Why did people need to agree on what each character meant first?

Data representation

Why did people need to write things down?

What sorts of things were they writing?

Data representation

The exhibits show examples of

- financial accounts
- Inventories (lists) of things
- history, poetry, and literature
- magic spells
- laws and contracts
- astronomical observations
- mathematics
- music

Data representation

Why did people need to write things down?

Data representation

Why did people need to write things down?

- to **store** it (across time)
- to **communicate** (across distance)
- to **process** it (change it – e.g. by adding numbers)

6. Explain why people needed to write things down

Data representation

Why did people need to write things down?

- to **store** it
- to **communicate**
- to **process** it

These are exactly the things that computers do

- they store data
- they present (communicate) data
- they process data

Data representation

So how do computers represent things?

- Computers use sequences of symbols to represent information
- Everything stored in computers ends up as a number
- So computers must use **numbers** to represent everything they store