



Information Theory

Key question

- How can information be measured?
- What is entropy?



Claude Shannon

Shannon's prediction and entropy of printed text experiment

Available alphabet

Click the character you expect to be next in the sentence.

Tip: The $_$ character is used to represent the space character between words.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . _

Sentence

?

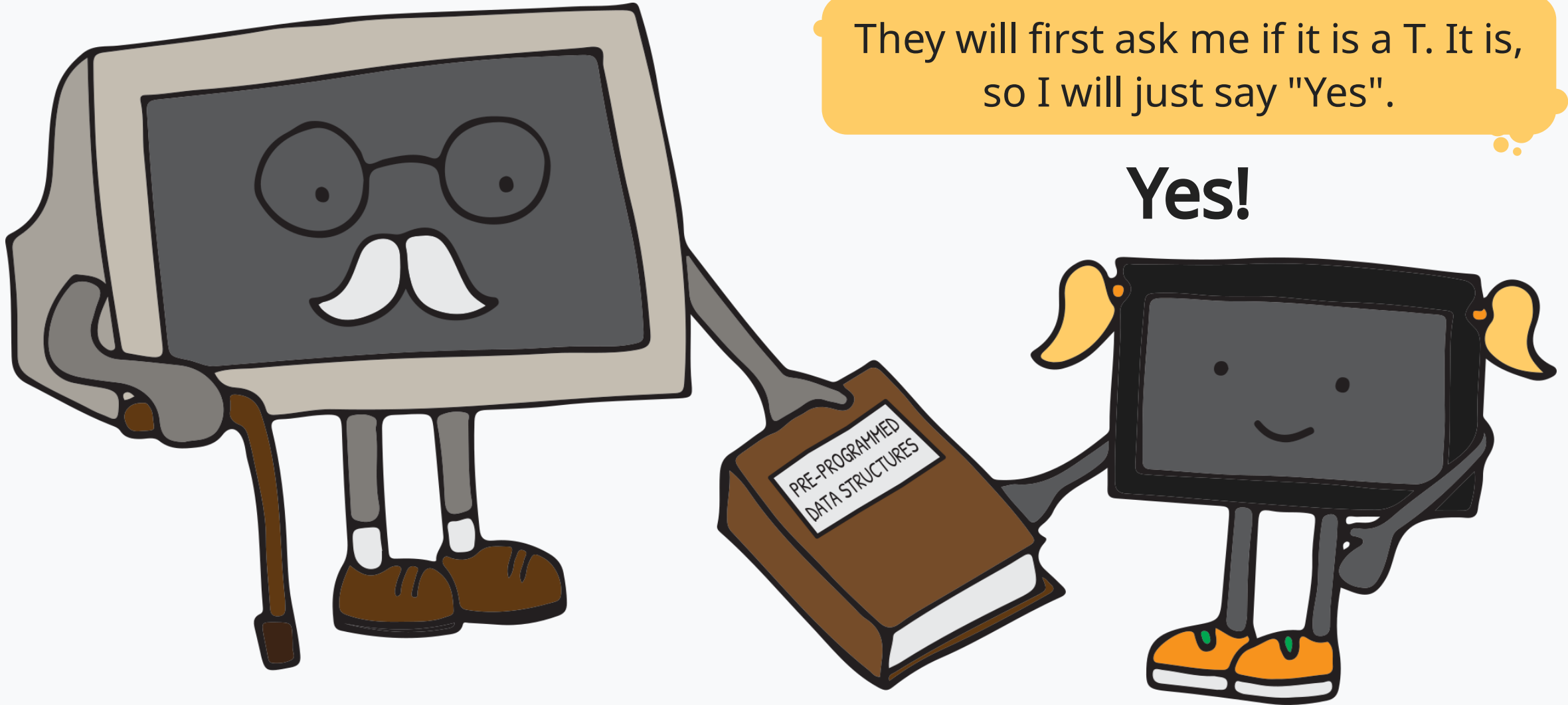
0

Show statistics

I think I will ask if it is a T.

They will first ask me if it is a T. It is,
so I will just say "Yes".

Yes!





Message:

a a a a a a a a a

What comes next?

Message:

z q a v

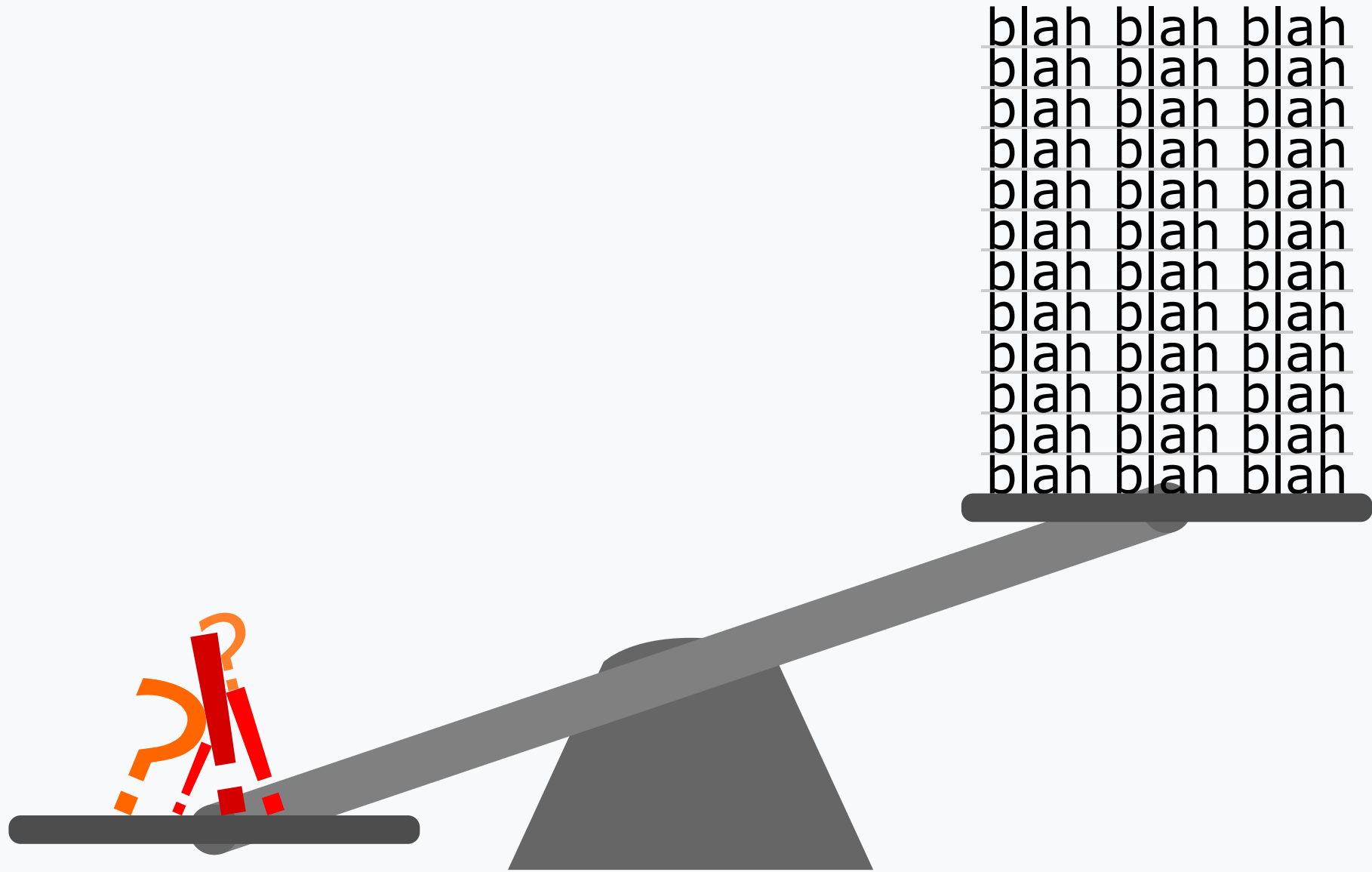
What comes next?

Message:

a b c a b c a b c

What comes next?

							?	?	?	?
?	?	?	?	?	?	?	?	?	?	?



Supporting Resources

- Original CS Unplugged activity

<https://classic.csunplugged.org/activities/information-theory/>

- Computer Science Field Guide: Shannon interactive

<https://www.csfieldguide.org.nz/en/interactives/shannon-experiment/>

- CS Unplugged at home: Guess the sentence

<https://www.csunplugged.org/en/at-home/guess-the-sentence/>