

CS 585 9/12/17

Version A: context size=1

DO NOT LOOK AT OTHERS' WORKSHEETS.

Predict a probability distribution for the next word in the sequence. We guarantee it will be one of the following choices. **Your probabilities must sum to one** (as close as possible).

In order to make the math easier, only give answers with one significant digit. Then you can take a log base 10 without a calculator (consulting the table below). For example:

- 3×10^{-2} (= 3/100)
- 1×10^{-4} (= 1/10000)
- 7×10^{-7} (= 7/10,000,000)

Later, we will reveal the word, and you will get more points if you gave a higher probability to that word that is revealed.

the ___ ??? ___

<u>word</u>	<u>predicted prob</u>
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Lord	_____
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car	_____
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database	_____
----------	-------

first	_____
-------	-------

great	_____
-------	-------

place	_____
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arithmetic help

$\log_{10}(2)=0.30$
 $\log_{10}(3)=0.48$
 $\log_{10}(4)=0.60$
 $\log_{10}(5)=0.70$
 $\log_{10}(6)=0.78$
 $\log_{10}(7)=0.85$
 $\log_{10}(8)=0.90$
 $\log_{10}(9)=0.95$

AFTER THE REVEAL:

$\log_{10}(\text{prob of revealed word}) =$

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Version B: context size=4

DO NOT LOOK AT OTHERS' WORKSHEETS.

Predict a probability distribution for the next word in the sequence. We guarantee it will be one of the following choices. **Your probabilities must sum to one** (as close as possible).

In order to make the math easier, only give answers with one significant digit. Then you can take a log base 10 without a calculator (consulting the table below). For example:

$$3 \times 10^{-2} \quad (= 3/100)$$
$$1 \times 10^{-4} \quad (= 1/10000)$$
$$7 \times 10^{-7} \quad (= 7/10,000,000)$$

Later, we will reveal the word, and you will get more points if you gave a higher probability to that word that is revealed.

load it into the ___ ??? ___

word predicted prob

Lord _____

car _____

database _____

first _____

great _____

place _____

<u>arithmetic help</u>
log ₁₀ (2)=0.30
log ₁₀ (3)=0.48
log ₁₀ (4)=0.60
log ₁₀ (5)=0.70
log ₁₀ (6)=0.78
log ₁₀ (7)=0.85
log ₁₀ (8)=0.90
log ₁₀ (9)=0.95

AFTER THE REVEAL:

log₁₀(prob of revealed word) =

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Version C: big context!

DO NOT LOOK AT OTHERS' WORKSHEETS.

Predict a probability distribution for the next word in the sequence. We guarantee it will be one of the following choices. **Your probabilities must sum to one** (as close as possible).

In order to make the math easier, only give answers with one significant digit. Then you can take a log base 10 without a calculator (consulting the table below). For example:

$$\begin{aligned} 3 \times 10^{-2} & \quad (= 3/100) \\ 1 \times 10^{-4} & \quad (= 1/10000) \\ 7 \times 10^{-7} & \quad (= 7/10,000,000) \end{aligned}$$

Later, we will reveal the word, and you will get more points if you gave a higher probability to that word that is revealed.

Holly popped the door open and clambered out and down the wing. She helped him pull the luggage out of the cargo area and load it into the ___ ??? ___

word predicted prob

Lord _____

car _____

database _____

first _____

great _____

place _____

<u>arithmetic help</u>
log ₁₀ (2)=0.30
log ₁₀ (3)=0.48
log ₁₀ (4)=0.60
log ₁₀ (5)=0.70
log ₁₀ (6)=0.78
log ₁₀ (7)=0.85
log ₁₀ (8)=0.90
log ₁₀ (9)=0.95

AFTER THE REVEAL:

log₁₀(prob of revealed word) =