

03.01 Worksheet: Generative AI



Name

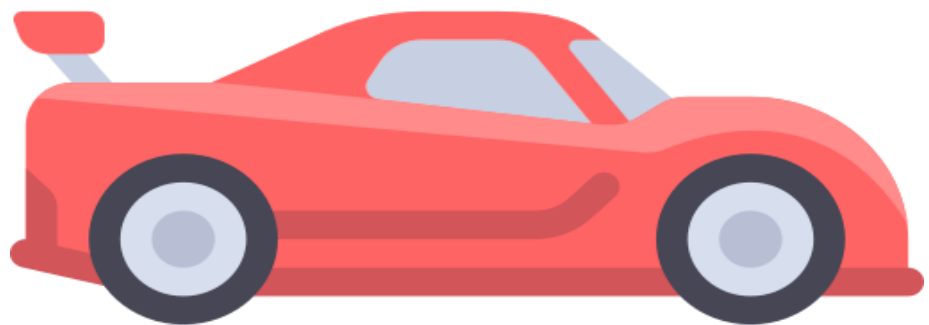
Class

Question 1

Predictive text on your phone works by analyzing word pairs and using statistics to take a guess at the next word you want to type. In this worksheet, we will work through creating your very own predicted sentence!

The sentences below make up the dataset that our predictive text machine is working with:

- Lightning McQueen is not just a racing champion but also an amazing athlete bro.
- A racing champion like Lightning McQueen is the ultimate athlete, he's the best bro.
- Bro Lightning McQueen is a great athlete and the ultimate racing champion.
- In the world of racing bro Lightning McQueen is a supreme athlete and a champion bro.
- A champion and amazing racing athlete, bro Lightning McQueen is the best.
- Bro a racing champion like Lightning McQueen has to be a great athlete.



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PART 1: IDENTIFYING WORD PAIRS

Use the following table to identify word pairs and how often those words occur.

There are 6 first words that have been identified for you, and you will need to choose 3 more to complete the tables below.

The first two have been completed for you.

FIRST WORD	SECOND WORD	COUNT
Lightning	McQueen	6

FIRST WORD	SECOND WORD	COUNT
McQueen	is	5
	has	1

FIRST WORD	SECOND WORD	COUNT
racing	champion	
	bro	
	athlete	

FIRST WORD	SECOND WORD	COUNT
is		

FIRST WORD	SECOND WORD	COUNT
a		

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FIRST WORD	SECOND WORD	COUNT
the		

FIRST WORD	SECOND WORD	COUNT

FIRST WORD	SECOND WORD	COUNT

FIRST WORD	SECOND WORD	COUNT
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PART 2: CONSTRUCTING YOUR FIRST SENTENCE

Using the tables you have created above, create your predictive sentence below!

The table below should help you in constructing your sentence. Highlight your word choice in green, and use it as the “first word” to identify your next word choices.

1st Word	2nd Word Choices		3rd Word Choices		4th Word Choices		5th Word Choices		6th Word Choices	
	Word	Count	Word	Count	Word	Count	Word	Count	Word	Count
Lightning	McQueen	6	is	5	not					
			has	1	a					
					the					

PART 3: DIY

Choose your own first word, and try to construct another sentence! You may want to extend this table to make the sentence longer!

1st Word	2nd Word Choices		3rd Word Choices		4th Word Choices		5th Word Choices		6th Word Choices		7th Word Choices	
	Word	Count	Word	Count	Word	Count	Word	Count	Word	Count	Word	Count

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Question 2

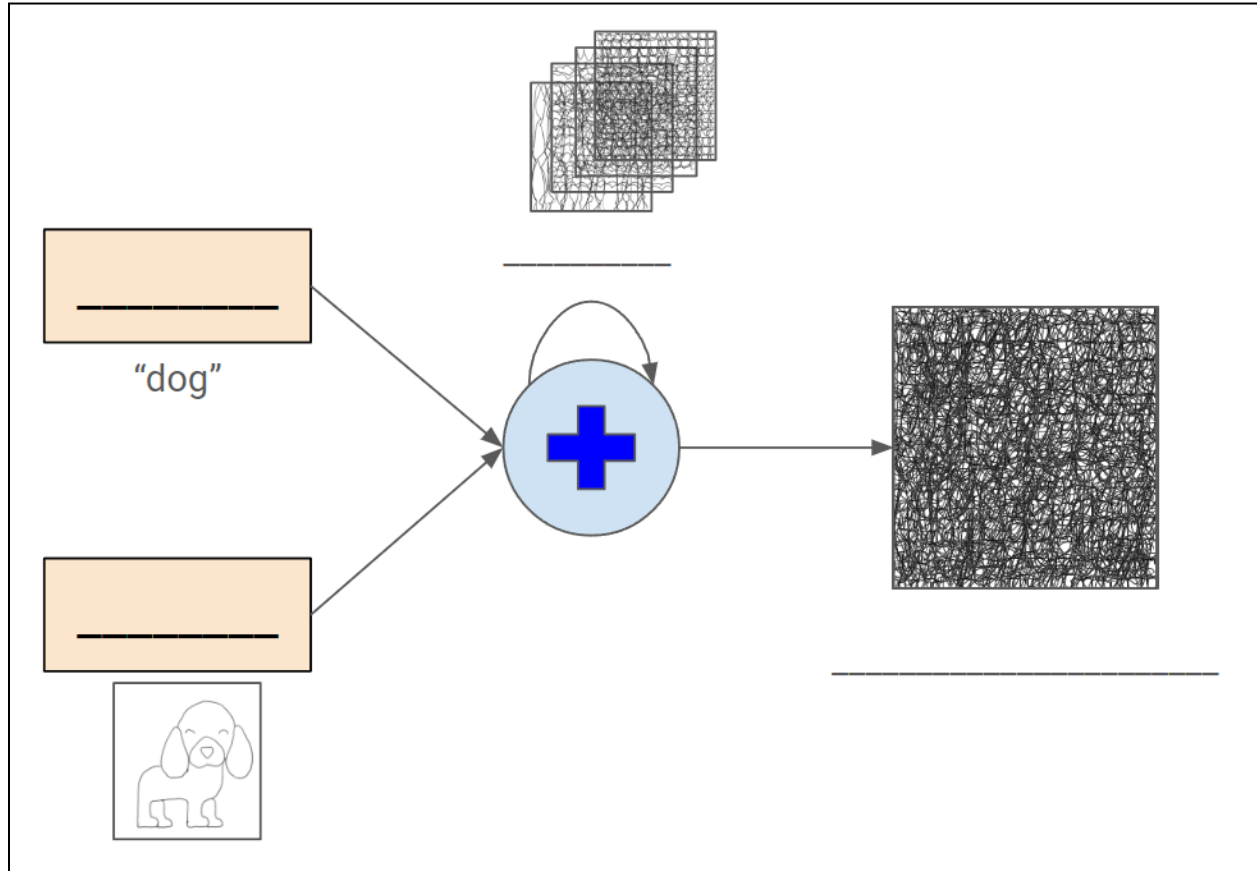
Write down the 3 main improvements Generative Pre-Trained Transformers added to the basic text prediction features on phones:

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Question 3

Fill in the blanks in the diagram below illustrating how Generative Image AI systems perform machine learning training:

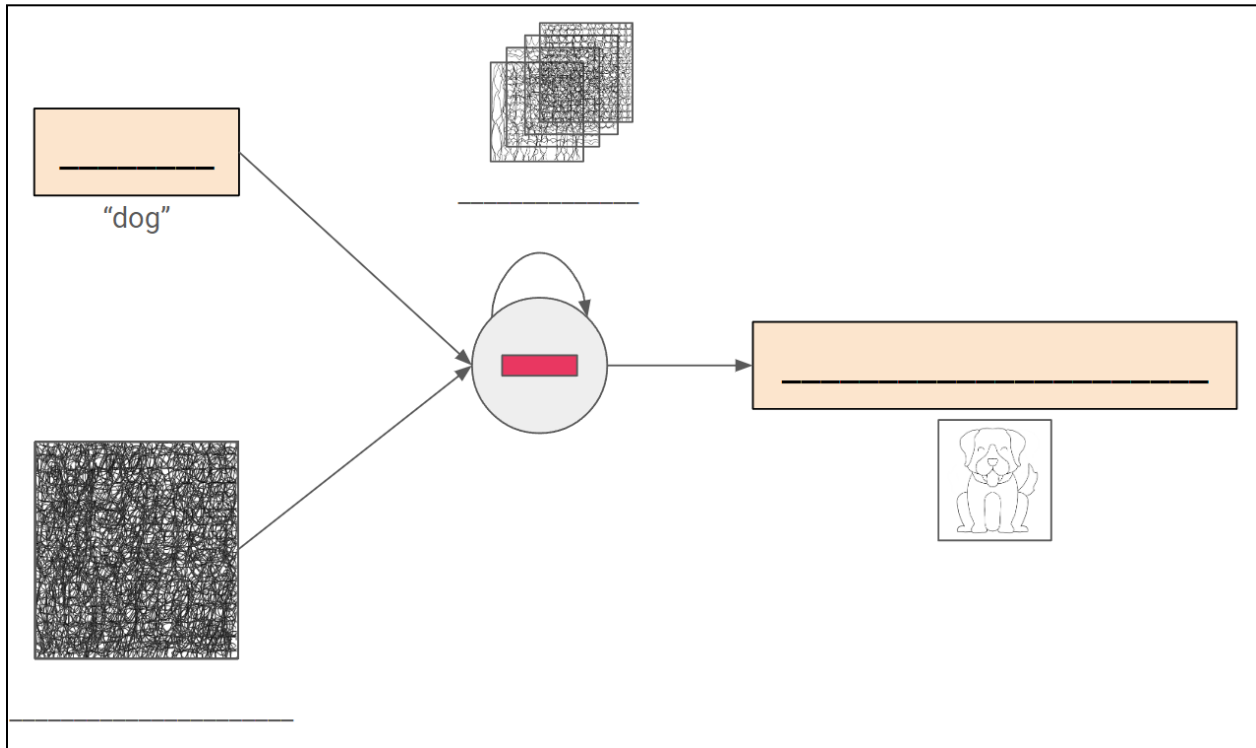


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Question 4

Fill in the blanks in the diagram below illustrating how Generative Image AI systems perform image generation:



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Question 5

Generative Image AI has been known to produce images of distorted human hands.



Research online to understand why this might be the case. In under 150 words explain, in your own words, the reason why Generative Image AI has trouble generating images of human hands.

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