



(https://swayam.gov.in/nc\_details/NPTEL)

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Introduction to Large Language Models (LLMs) (course)



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## Course outline

About NPTEL

How does an NPTEL online course work?

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

Lec 15 : Introduction to Transformer: Self & Multi-Head Attention (unit?

Week	6 -	Ass	sigr	ımer	nt 6	)
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The due date for submitting this assignment has passed.

Due on 2025-03-05, 23:59 IST.

## Assignment submitted on 2025-02-27, 22:04 IST

<u> </u>		<b>.</b>	41	
Ut uses a	single attention	i score for	the entire	sequence

1) What is the key advantage of multi-head attention?

It allows attending to different parts of the input sequence simultaneously

It eliminates the need for normalization

It reduces the model size

Yes, the answer is correct.

Score: 1

Accepted Answers:

It allows attending to different parts of the input sequence simultaneously

2) What is the role of the residual connection in the Transformer architecture?

1 point

1 point

1 point

Improve gradient flow during backpropagation

Normalize input embeddings

Reduce computational complexity

Prevent overfitting

Yes, the answer is correct.

Score: 1

Accepted Answers:

Improve gradient flow during backpropagation

3) Which of the following elements addresses the lack of sequence information in selfattention?

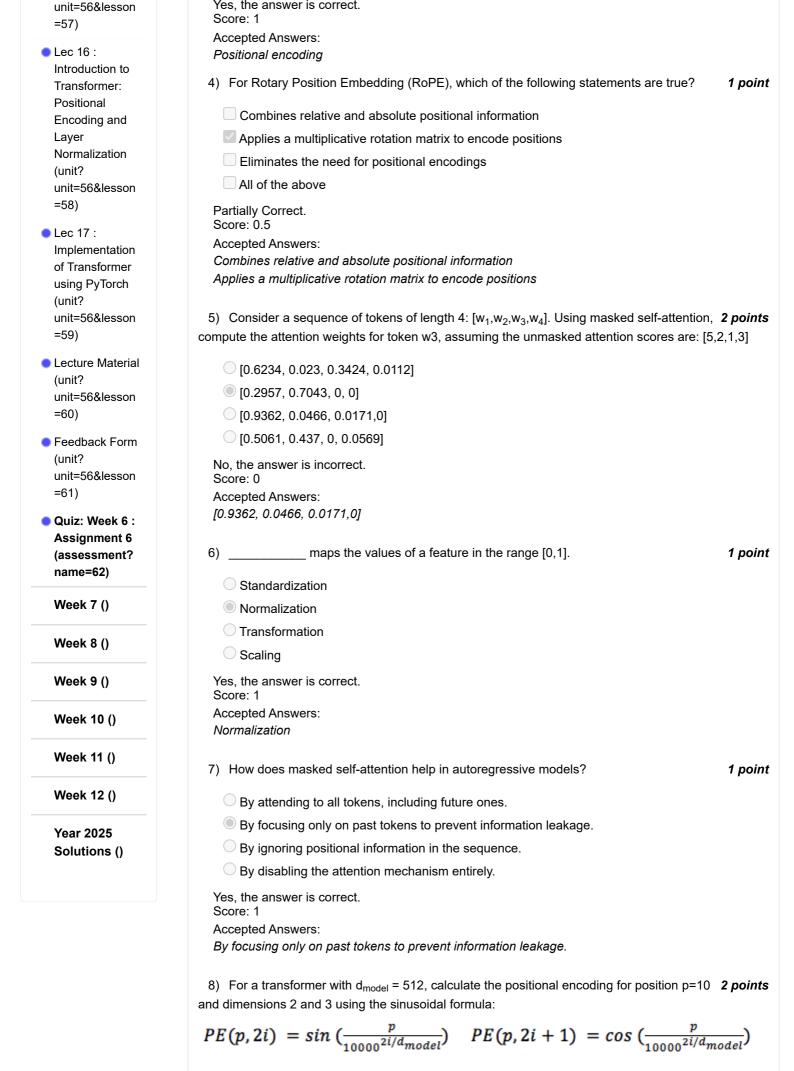
tention?

Non-linear transformations

Positional encoding

Masked decoding

Residual connections



$$\circ$$
 sin  $(\frac{10}{10000^{1/256}})$ , cos  $(\frac{10}{10000^{1/256}})$ 

$$\circ$$
 cos  $(\frac{10}{10000^{1/512}})$ , sin  $(\frac{10}{10000^{1/512}})$ 

$$\circ$$
 cos  $(\frac{10}{10000^{4/512}})$ , sin  $(\frac{10}{10000^{7/256}})$ 

$$\circ$$
  $sin(\frac{10}{10000^{2/512}}), cos(\frac{10}{10000^{3/512}})$ 

No, the answer is incorrect.

Score: 0

Accepted Answers:

$$sin(\frac{10}{10000^{1/256}}), cos(\frac{10}{10000^{1/256}})$$