

# ICLeafAI

## Quiz: Understanding Transformer Architecture

### Question 1: Multiple Choice

What is the primary purpose of the "self-attention" mechanism in transformers?

- A) To reduce the model size
- B) To allow the model to focus on different parts of the input sequence
- C) To generate random outputs
- D) To increase the computational complexity

### Question 2: True/False

Transformers do not require recurrent connections to process sequences.

- A) True
- B) False

### Question 3: Multiple Choice

Which component of the transformer architecture is responsible for positional encoding?

- A) Encoder
- B) Decoder
- C) Input Layer
- D) Attention Layer

### Question 4: True/False

The original transformer architecture was introduced in the paper "Attention is All You Need."

- A) True
- B) False

### Question 5: Multiple Choice

In the transformer's architecture, which of the following is NOT a part of the encoder?

- A) Multi-head attention
- B) Feed-forward neural network
- C) Output softmax layer
- D) Layer normalization

### Question 6: True/False

In a transformer, each attention head learns different representations of the input.

- A) True
- B) False

### Question 7: Multiple Choice

What is the role of the "masked multi-head attention" in the decoder?

- A) To prevent future tokens from being attended to
- B) To enhance the input sequence
- C) To reduce overfitting
- D) To improve model interpretability

**Question 8: True/False**

Transformers have shown to be effective in handling long-range dependencies in data.

- A) True
- B) False

**Question 9: Multiple Choice**

What does the "N" in the transformer architecture typically refer to?

- A) The number of hidden layers
- B) The number of attention heads
- C) The number of encoder/decoder layers
- D) The number of input tokens

**Question 10: True/False**

The transformer architecture only works with text data and cannot be applied to other types of data, such as images or audio.

- A) True
- B) False

End of Quiz

**Instructions for Grading:**

- Each correct answer is worth 1 point.
- Total possible score: 10 points.
- Review answers to deepen understanding of transformer architecture.

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