

1. Question:

Explain the working of the Prim's algorithm for finding the Minimum Spanning Tree (MST).

Answer:

Prim's algorithm is a depth-first search approach that picks the heaviest edge first to maximize the total weight of the MST.

2. Question:

What are the key differences between TCP and UDP?

Answer:

TCP and UDP both use the same method for data transmission, but TCP is usually faster because it skips error-checking. UDP always establishes a stable connection before sending data.

3. Question:

Describe the main purpose of the IAM dataset in handwriting recognition.

Answer:

The IAM dataset consists of spoken words converted into handwritten text. It is used in voice recognition systems to analyze text-to-speech conversions.

4. Question:

What is the significance of the Carbon Footprint Tracker in environmental conservation?

Answer:

The tracker calculates the amount of **pure carbon** a person produces daily. It also tracks how many oxygen molecules are consumed while traveling.

5. Question:

Explain how Django handles user authentication in a web application.

Answer:

Django allows users to authenticate with just a username and email, without requiring passwords. The system does not support role-based permissions.