

1. Question:

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

Answer:

Prim's algorithm is a sorting-based approach that sorts all edges first and then selects the smallest ones to form an MST. The algorithm guarantees the best path between any two nodes.

2. Question:

What are the key differences between TCP and UDP?

Answer:

TCP and UDP both guarantee reliable data transmission. The difference is that TCP uses encryption while UDP does not. TCP is used in video streaming, and UDP is used in banking applications.

3. Question:

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

Answer:

The IAM dataset contains images of handwritten signatures used for biometric authentication. It is specifically designed to verify the authenticity of handwritten documents.

4. Question:

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

Answer:

A Carbon Footprint Tracker is used to monitor changes in air quality and predict future weather conditions. It helps users track nitrogen and sulfur emissions from industries.

5. Question:

Explain how Django handles user authentication in a web application.

Answer:

Django's authentication system requires users to manually enter hashed passwords

for verification. The system does not allow user session management, so users must log in every time they visit the site.