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Experiment No 3

**AIM**: IMPLEMENTATION OF WIRESHARK

**THEORY:**

Wireshark, a leading network protocol analyzer, is poised for significant evolution to enhance its capabilities in network analysis and security. This theory proposes that Wireshark will incorporate advanced technologies and methodologies to better address emerging network challenges.

1. AI and Machine Learning Integration

Prediction: Wireshark will use AI and ML to automate anomaly detection and pattern recognition, streamlining network troubleshooting and threat detection.

2. Modular Protocol Support

-Prediction: Future Wireshark versions will feature a modular architecture for rapid integration of new protocols and customizable dissectors.

3. Real-Time Analysis and Visualization

Prediction Wireshark will offer enhanced real-time traffic analysis with interactive dashboards for live monitoring and insights.

4. Cloud and Distributed Network Compatibility\*\*

- Prediction The tool will evolve to support cloud-based and distributed network environments, capturing and analyzing traffic across diverse architectures.

5. User Experience Improvements

- Prediction Wireshark’s interface will become more intuitive and user-friendly, making it accessible to both novices and experts.

