PASTA worksheet

Stages	Sneaker company
I. Define business and security objectives	• *The app has a lot of back-end processing like login system, customer and seller data, shoes data* • *Proper payment handling is really important because they want to avoid legal issues.* • *The app will process transactions.*
II. Define the technical scope	List of technologies used by the application: • *Application programming interface (API)* • *Public key infrastructure (PKI)* • *SHA-256* • *SQL* **Application Programming Interface (API):** Enables communication between different software components, allowing the application to exchange data and functions seamlessly. **Public Key Infrastructure (PKI):** Provides encryption and digital certificates to ensure secure communication and authentication. **SHA-256:** A cryptographic hash function used for securely storing and verifying data, such as passwords or digital signatures. **SQL:** A structured query language used to manage and query data stored in relational databases.
III. Decompose application	Sample data flow diagram
IV. Threat analysis	• *Lack of prepared statements* • *Weak login credentials*

V. Vulnerability analysis	List **2 vulnerabilities** in the PASTA worksheet that could be exploited. • *Could there be things wrong with the codebase?* • *Could there be weaknesses in the database?* • *Could there be flaws in the network?*
VI. Attack modeling	Sample attack tree diagram
VII. Risk analysis and impact	Prepared statements and parameterized queries to prevent SQL injection. Multi-factor authentication (MFA) to strengthen login security. Regular code reviews and vulnerability scanning to identify and patch weaknesses. Network encryption (TLS/SSL) to protect data in transit.
