Task 04 – Password Security and Authentication

Introduction
This task focuses on understanding password security, hashing techniques, and authentication mechanisms. Strong passwords and authentication play a critical role in cyber security.

Concepts Learned
Passwords are stored using hashing, not encryption. Common hashing algorithms include MD5, SHA-1, and bcrypt. Weak passwords are easy to crack using dictionary and brute-force attacks.

Password Attacks
Dictionary attacks use common password lists to crack hashes. Brute-force attacks try all possible combinations. Weak passwords like 'password123' are easily compromised.

Multi-Factor Authentication (MFA)
MFA adds an extra layer of security by requiring something you know, have, or are. It significantly reduces unauthorized access risks.

Learning Outcome
This task helped me understand password vulnerabilities, attack methods, and secure authentication practices.