<u>Penetration Testing</u>

Penetration testing (pen testing) is a proactive security assessment approach.
Goal : identify vulnerabilities and weaknesses in a system or application before malicious hackers can exploit them.
Pen testers simulate real-world attacks to assess an organization's security defenses.
The process involves ethical hacking to find vulnerabilities, rather than engaging in malicious activities.
Pen testing can be performed on various targets, including networks, web applications, mobile apps, IoT devices, etc.
The scope of the test is defined beforehand, outlining what's in and out of scope for testing.

Common pen testing methodologies include **Black Box, White Box, and Gray Box testing.**

Overall, penetration testing is a crucial component of a comprehensive security strategy, helping organizations proactively identify and mitigate security risks before they can be exploited by malicious actors.