Important web technologies.

HTML CSS JS php SQL.

Networking.

↓

for hardware devices

* firewall

Programming languages.

- php - Java script - SQL → for beginners.
- python - Bash - per - C/C++ - Ruby → for advanced.

Ethical hacking

↓

with permission

Unethical hacking.

↓

without permission.

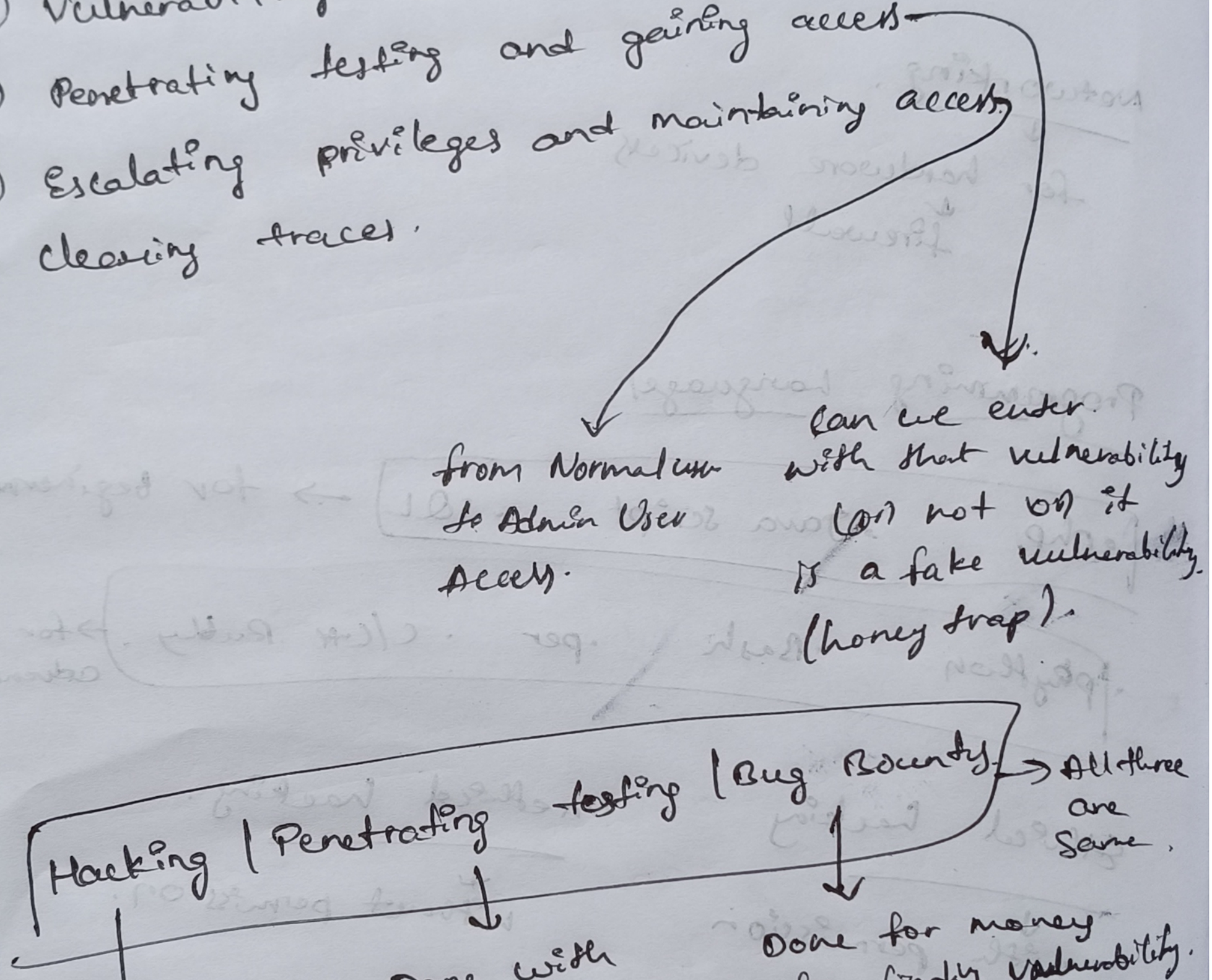
Types of hackers.

⇒ white hat → legal activities
⇒ black hat → illegal activities.
⇒ grey hat → Both legal and illegal.
→ Blue hat → for defending ⇒ used by companies.
→ script kiddies → using existing tools without any knowledge.
⇒ Elite hacker → they know all type of activities.
→ Red hat → for destruction (or) accessing companies info without permission
⇒ State sponsored hackers → for promotion of states (or) for destruction of states hired by state government.
→ Hactivists → who works for promoting political (or) social messages.

→ cyber terrorists
↓
Promoting terrorism activities.

Steps followed by hackers.

1. information gathering.
2. Vulnerability analysis
3. Penetrating testing and gaining access
4. Escalating privileges and maintaining access
5. clearing traces.



Steps followed by white hat hackers.

i) Legal Documentation.

- NDA (Non-Disclosure Agreement).
  - MOU (Memorandum of understanding).

→ should not share the info. of Bugs found, info, any confidential info with others.

→ up to which extent it has to be tested

2.) Scope Assessment.

→ what are devices is to be tested
→ what are networks that is to be tested

3.) Information Assesment.

company gives info of
→ Types of OS
→ Architecture & website etc.
→ Programming Language Used
→ Test account details

4.) Vulnerability Assesment.

→ process of identifing vulnerabilites, quantifying, prioritizing the vulnerabilities in a system.
→ How many vulnerab are there and which to prioritize.

5.) Penetrating testing:

→ Attempting to find and exploit vulnerabilites in a computer system.

6.) gaining Accers.

→ Process of taking Accers.

7) Privilege Escalation.

→ The process of transforming oneself from a user into an admin.

from user acces → Admin acces

→ Taking complete control of system

8.) Report Generation.

→ This is final report, how it should be in documentation needed submit for a company.

→ A detailed Report

9.) Patch Assistence.

→ Vulnerabilities are found out, it has to be patched up to improve security.

→ giving support to developers and helps them in patching bugs.

10.) Revalidation.

→ After patching the bugs, Again firmly whether the bugs are completly patched (or) not.

→ If not patched, again assign the developers.

Computer Network.

↳ two or more devices connected.

→ for sharing info.

classification of network.

- LAN (Local Area Network).
- MAN (Metropolitan Area Network)
- WAN. (Wide Area Network)

a classification of computer Networks on basis of accessibility.

- Extend network.
  - ↓
  - Access for more no. of people.
- Internet network.
  - ↓
  - Access to limited no. of people.

Servers:

→ computer which stores data and sends it when asked for.

Client:

→ device which requests data from other computer.

client-server-model.

Data Packets:

→ data sent in small size through internet called Data Packets.