List out the qualities of a hacker

Curiosity :- Hackers often have a deep-seated curiosity about how things work. They enjoy exploring systems, understanding their inner workings, and discovering new ways to use (or) manipulate them.

problem-Solving :- A hacker's mindset is very much about solving puzzles and overcoming challenges. They relish the opportunity to tackle different problems and find innovative solutions.

persistence :- Hacker's tend to be persistent. They don't give up easily when faced with obstacles. Instead. They keep trying different approaches untill they succeed.

Creativity :- Creativity is a significant part of hacking. Hackers often think outside the box and devise unconventional methods to achieve their goals.

Skepticism :- Hacker's are usally skeptical of established systems and security measures. They question the status quo and seek out weakness or vulnerabilites overlooked by others.

Ethical Spectrum :- It's important to note that hackers can fall anywere on the ethical spectrum. Some, often refer to as "white hat" hackers, use their skills for purpose like improving

Continous learning: Hackers are lifelong learners. They constantly update their knowledge and skills to keep up with the ever evolving technology landscape.

Respect for diversity of thought: The internet is not work of one person. I know that may sum obvious. but thousands of minds make all the apps and sites we use to get food, learn, accen healthcare, and make sure ale have enough funds to shop at our favorite retail sites.

Tenacious: Ethical hackers and malicious actor Strongly share the characteristic of stubbornly not give up. Neither of us is going to have a look at your app. click the mouse a few times, and decide/all can't break into it.

deep Technical knowledge: proficiency in programming operating systems (linux, windows), networks, and security tools.

Resourcefulness: using available tools and knowledge in innavatie ways sometimes under constraints

Challenging Authority: A rebellious streak or tendency to question the status quo.

Explain about?

White hat hackers: White hat hackers are the one who is authorized or certified hackers who work for the government and organizations by performing penetration testing and identify loopholes in their cybersecurity. They also ensure the protection from the malicious cyber crimes. They work under the rules and regulations provided by the government that's why they are called Ethical hackers or cyber security experts.

Black hat hackers: They are often called Crackers Black hat Hackers can gain Unauthorized access to your system and destroy your vital data. The method of attack they use common hacking practices they have learned earlier. They are considered to Criminals can be easily identified because of their malicious actions.

Gray hat hackers: Grey hat hackers fall somewhere in the category between white hat and black hat hackers. They work both good and bad intentions. They can use their skills for personal gain. it all depends upon the hacker. if a gray hat hacker uses his skill for his personal gains, he/she is considered as black hat hackers.

Script kiddies: They are the most dangerous people in therm of hackers. A script kiddie is an unskilled person who uses scripts or downloads tools available for hacking provided by other hackers. They attempt to attack computer systems and networks and deface websites. Their main purpose is to impress their friends and society. Generally, Script kiddies are juvenils who are unskilled about hacking.

Green hat hacker: They are also amateurs in the world of hacking but they are bit different from script kiddes. They care about hacking and strive to become full-blown hackers. They are inspired by the hackers and ask them few questions about. while hackers are answering their question they will listen to its novelty.

Blue hat hacker: They are much like the white hat hackers, they work for companies for security testing of their software right before the product launch. Blue hat hackers are outsourced by the company unlike white hat hackers which are employed by the (part of the) company.

Red hat hacker: They are also known as the eagle eyed hackers. Like white hat hackers, red hat hacker also aim to halt the black hat hackers. There is a major difference in the way they operate. They become ruthless while dealing with malware actions of the black hat hackers. Red hat hacker will keep on attacking the hacker aggressively that the hacker may know it as well have to replace the whole system.

State/nation Sponsored hacker :- State (or) nation Sponsored hackers are those who are appointed by the government to provide them Cyber security and to gain confidential inform from the other Countries to stay at the top or to avoid any kind of danger to the country. They are highly paid government workers.

Hacktivist :- These are also called the online versions of the activists. Hactivist is a hacker or a group of anonymous hackers who gain unauthorized accss to government's Computer files and networks for further social (or) political ends

Malicious Insider (or) Whistle blower : A malicious insider (or) whistle blower could be an employee of a Company or a government agency with a grudge or a strategic employee who becomes aware of any illegal activities happening within the organization and can black mail the organization for his/her personal gain.

pink hat hacker :- A pinkhat hacker uses their hacking skills for positive, socially conscious goals, like raising awareness for causes, advocating for movements, or educating about security, focusing on minimal harm and public good.

Yellow hat hacker :- A yellow hat hacker is an ethical security expert who proactively finds vulnerabilites in system with the owner's permission to help strengthen defenses. acting as a proactive protector by identifying weaknesses before malicious actors.

Explain about types of server advantages and disadvantages. limitations and usage.

Server: A server is a computer (or) program that provides a service to another computer (or) program, known as a client.

Types of Servers

*) Web Server: It is a system that process requests from clients and server website content over the internet using protocols like HTTP/HTTPS, making websites accessible.

Advantages of Web Server

* High performance & Speed
* Scalability
* Reliability & uptime
* Security
* Customization
* Resource Control.

disadvantages of Web Server

* Cost is more expensive
* Complexity Requires technical expertise for setup and maintenance
* Dependency: Relies on constant internet connectivity.

Proxy Server: It acts as an intermediary between your device and the internet, forwarding requests, hiding your IP for privacy/anonymity, improving speed via caching, and controlling content for security

advantages:-

* performance
* Access control
* Bypass Restrictions
* Security
* privacy & Anonymity.

disadvantage:-

* Security Weakness
* performance issue
* Complexity & cost
* Single point of failure

Mail Server:-

An email server is a computer system (or) software application that act as a digital post office, dedicated to sending, receiving, routing, and storing email messages using specific protocols like SMTP, POP3 and IMAP. It is the backbone of all email communication operating in the background to ensure messages are delivered to the correct recipient's inbox.

Advantages of Email Server

→ Facilitating Communication
→ Centralized Mangement.
→ Data storge and Archiving
→ Security Emplementation
→ collabration Tools.

disadvantages of Email Server

Security Risks
Technical Expertise
Information overload.
Lack of personal touch and Misinterpretation
Infrastructure Dependince
Cost for Small Busines.

Application Server

An application Server is a software framework that provides an environment for running, managing, and delivering business applications to multiple clients over a network. It acts as a middle layer between the user interface and backend databases, processing dynamic content and executing bussiness logic.

Advantages of an Application Server

*) Enhanced performance
*) Scalability and flexibility
*) Strengthened Security.
*) Centralized management.

*Reliability and High Availability
*Faster Development

Disadvantages of Application Server

*) Higher costs
*) Complexity
*) Resource Consumption
*) Single point of failure
*) potential Network Delays.

Real-Time Communication Server

Real time Communication is the instant exchange of information between people (or) System with minimal latency. It happens live, without noticable delays. allowing for seamless Conversations and interactions. In business, RTC enhances Customer experience, boosts efficiency, and enables faster decision making.

Advantages of Real-time Server

* Scalability for large groups
* Reliable Connectivity
* Enhanced performance and reduced latency.
* Centralized control and security.
* Media processing and compatibility.
* Simplified development.
* Interoperability and integration.

dis advantages of Real-time Server.

* Increased costs
* Added Latency.
* Complexity of implementation.

* potential security & privacy concerns.
* Single point of failure.
* Scalability challenges.
* Browser/platform Inconsistencies.

FTP Server (File Transfer protocol).

FTP is a group of standard protocols that allows interconnected (or) networked computers to transfer files and communicate over the internet. FTP server is a computer that offers access service and file storage on the internet, it handles all the data transmission between networked computers. FTP server waits for the client to connect to it and it use the FTP protocol.

Advantages of FTP Server

* FTP Server offer a level of security.
* FTP Server gives the user a level of control.
* FTP Server allows a user to send big files at once.
* it improves workflow
* it allows data recovery.
* It has a resumption facility i.e,

disadvantage of FTP Server

→ All the files, passwords, and usernames are sent in unencrypted text.
→ TLS 1.2 might not work over FTPS as it is not always supported.
→ It is possible to spoof servers to send data to an unpremeditated Computer or on a random port.

List Server :-

A device that operates mailing lists and distributes new messages, newsletters, or other postings from list members or list administrators to the entire list of subscribers.

Advantages of List Servers :-

→ Efficient
→ automated group communication
→ building strong communities
→ streamlined distribution
→ Asynchronous & convenient.

disadvantages of List Servers :-

→ self-censorship
→ user Experience
→ moderation Burden
→ No Analytics.
→ Lack of Control
→ impersonal feel.

TELNET Server (Teletype network).

Telnet is a type of protocol that enables one computer to connect to the local computer. It is used as a standard TCP/IP protocol for virtual Terminal Service which is provided by ito.

Advantages of TELNET Server

→ it provides remote access to someone's Computer System.
→ Telnet allows the user for more accs with fewer problems in data transmission

→ Telnet saves a lot of time.
→ The oldest system can be connected to a newer system with telnet having different operating system.

disadvantages of TELNET

→ As it is somehow complex, it becomes difficult to beginners in understanding.
→ data is sent there in form of plain text, that's why it is not so secured.
→ some capabilities are disabled of not proper interlinking of the remote and local devices.

Open-source server

An Open-Source server uses software with publicly accessible source code, allowing anyone to use, study, modify, and share it fostering collaboration, transparency, and customization

Ex: linux (os).

advantages of open source server

→ Lower cost
→ unmatched flexibility
→ Community collabration
→ transparency.

disadvantages of open source server

→ limited community support.
→ potential complexity and higher learning curves
→ compatibility issues
→ proprietary systems.

Virtual Server :-

A virtual server is a type of software-enabled server that can be created by partitioning a physical server — often offered to as the host or bare metal server — into smaller, self-contained segments. A virtual server can replicate the functions of any type of server, while also sharing resources with other types of virtual servers.

Advantages of Virtual Server :-

→ Lower costs
→ Scalability
→ Increased capacity
→ Instant provisioning.
→ Improved disaster recovery.

Disadvantages of Virtual Servers :-

→ performance Overhead.
→ Resource contention and noisy neighbors.
→ Complexity in management.
→ Licensing and hidden costs
→ networking and storage challenges.