

FINAL EXAM OF DATABASE

Q1: What is normalization?

Ans. Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization rules divides larger tables into smaller tables and links them using relationships.

Q2: What is 1NF? Explain with examples.

Ans. First normal form (**1NF**) is a property of a relation in a relational database. A relation is in first normal form if and only if the domain of each attribute contains only atomic (indivisible) values, and the value of each attribute contains only a single value from that domain.

Example. An atomic value is a value that cannot be divided.

Q3: What is 3NF? Explain with examples.

Ans. Third normal form (**3NF**) is a database schema design approach for relational databases which uses normalizing principles to reduce the duplication of data, avoid data anomalies, ensure referential integrity, and simplify data management.

Q4: What is BCNF? Explain with examples.

Ans. Boyce–Codd normal form or **BCNF** is a normal form used in database normalization. It is a slightly stronger version of the third normal form (3NF)

Q5: What is Operating system? Give examples?

Ans. An operating system (OS) is system software that manages computer hardware, software ... Windows CE, Minix 3, MacOS, LinuxOs

and Google,s android OS some examples of embedded operating systems. ... Interrupts are central to operating systems, as they *provide* an efficient way for the operating system to interact with and react to its environment.

Q6: What is Linux operating system? Why it is considered as better alternative than windows?

Ans. Linux® is an open source operating system (OS). An operating system is the software that directly manages a system's hardware and resources, like CPU, memory, and storage. The OS sits between applications and hardware and makes the connections between all of your software and the physical resources that do the work

It is better than windows because of What is it like when you buy a car, but you cannot see what's under the hood? Similar is the case with when you use a Windows-powered system.

However, in contrast, Linux is completely an open source project. You can have a look at the source code of a Linux OS, which is a plus.I know, most people don't care about this openness of Linux, this is the most important feature of using GNU/Linux.

Q7: What is trojan horse?

Ans. In computing, a **Trojan horse** is a program downloaded and installed on a computer that appears harmless, but is, in fact, malicious. ... When the user clicks on the email attachment or downloads the free program, the malware that is hidden inside is transferred to the user's computing device

Q8: What is MD5 hash and explain its significance using a practical example?

Ans. The MD5 message-digest algorithm is a widely used hash function producing a 128-bit hash value. Although MD5 was initially designed to be used as a cryptographic hash function, it has been found to suffer from extensive vulnerabilities. It can still be used as a checksum to verify data integrity, but only against unintentional corruption. It remains suitable for other non-cryptographic purposes, for example for determining the partition for a particular key in a partitioned database

Q9: What is dark web?

Ans. The dark web is a part of the internet that isn't indexed by search engines. You've no doubt heard talk of the “dark web” as a hotbed of criminal activity.

Q10: How can we access dark web?

Ans. Accessing the Dark Web can be dangerous if you don't use Tor (The Onion Router) browser and a premium VPN (Virtual Private Network), like [Express VPN](#). The Tor browser is a secure browser, keeping you anonymous online by encrypting your data and routing the connection through the Onion network of volunteer-run servers. However, this browser doesn't prevent your ISP (Internet Service Provider) from recognizing you're using Tor itself.

Q11: What is black and white hat hackers?

Ans. Some hackers are criminals and use their computer skills to harm or damage computer systems. These people are called black hat hackers. White hat hackers, on the other hand, use their computer skills to perform ethical hacking.

Q12: Which operating systems are used for hacking and penetration testing?

Ans . Kali Linux. ...
BackBox. ...
Parrot Security Operating System. ...
DEFT Linux. ...
Network Security Toolkit. ...
BlackArch Linux. ...
Cyborg Hawk Linux. ...
GnackTrack.

Q13: Why windows are more prone to viruses?

Ans. Since Windows is by far the most prevalent operating system, just the sheer number of devices ensures that Windows users will end up getting more viruses. Now that Macs are selling pretty well, the number of incidents of viruses and malware has gone up too.

Q15: What is open source softwares?

Ans. Open-source software (OSS) is a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software to anyone and for any purpose. Open-source software may be developed in a collaborative public manner.

Q16: Why windows Vista was a big failure?

Ans. Microsoft either forgot or disregarded that fact when it released Windows Vista, because, despite a long beta period, a lot of existing software and hardware were not compatible with Vista when it

was released in January 2007. ... In other words, Vista broke a lot of the things that users were used to doing in XP