DB FINAL EXAM

1. 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
2. A relation will be 1NF if it contains an atomic value. It states that an attribute of a table cannot hold multiple values. It must hold only single-valued attribute. First normal form disallows the multi-valued attribute, composite attribute, and their combinations.
3. 3NF is used to reduce the data duplication. It is also used to achieve the data integrity. If there is no transitive dependency for non-prime attributes, then the relation must be in third normal form.
4. BCNF is an extension to Third Normal Form (3NF) and is slightly stronger than 3NF. A relation R is in BCNF, if P -> Q is a trivial functional dependency and P is a superkey for R.
5. What Are Some Examples of Operating Systems? Some examples of operating systems include Apple macOS, Microsoft Windows, Google's Android OS, Linux Operating System, and Apple iOS. Apple macOS is found on Apple personal computers such as the Apple Macbook, Apple Macbook Pro and Apple Macbook Air.
6. Linux offers great speed and security, on the other hand, Windows offers great ease of use, so that even non-tech-savvy people can work easily on personal computers. Linux is employed by many corporate organizations as servers and OS for security purpose while Windows is mostly employed by business users and gamers.
7. A Trojan horse or Trojan is a type of malware that is often disguised as legitimate software. Trojans can be employed by cyber-thieves and hackers trying to gain access to users' systems. Users are typically tricked by some form of social engineering into loading and executing Trojans on their systems.
8. The MD5 message-digest algorithm is a cryptographically broken but still 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.
9. The dark web refers to encrypted online content that is not indexed by conventional search engines. ... The dark web is a part of the deep web, which just refers to websites that do not appear on search engines.
10. Getting to the dark web is actually a lot easier than you might think. All you have to do is download a dark web browser, like the Tor browser.Once you install a dark web browser on your device, it functions just like a regular browser: type in a URL, and off you go.However, finding the material you’re looking for on the dark web is more difficult than using a search engine like Google. The dark web doesn’t have an index or ranking system to help you find what you need.There are such things as dark web search engines. One called the Uncensored Hidden Wiki offers some guidance to content on the dark web, but it may include illegal websites.
11. While white hat hackers work to find and fix security problems in a system, black hat hackers exploit weaknesses for self-serving reasons, including financial gain, revenge or enjoyment. Using tools such as viruses, malware and spyware, malicious hackers can gain information and use it for criminal purposes.
12. Kali linux

It is one of the best hacking OS which has over 600 preinstalled penetration-testing applications (cyber-attack performs against computer vulnerability). This OS can be run on Windows as well as Mac OS. Features: It can be used for penetration testing

1. One of the popular adverts stated that Microsoft machines were more vulnerable to viruses than their Apple counterparts, as there were far more viruses out there targeting PCs than there were Apple products.
2. Prime examples of open-source products are the Apache HTTP Server, the e-commerce platform osCommerce, internet browsers Mozilla Firefox and Chromium (the project where the vast majority of development of the freeware Google Chrome is done) and the full office suite LibreOffice.
3. Microsoft didn't think much about compatibility for Vista. Many prevailing software and hardware were incompatible, although Vista had a fairly long beta period. This made it harder for IT companies to adapt to Vista and many computer peripherals were practically useless. ... This caused compatibility issues with Vista.