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## Q: 1. Part A: differntiate between open source software and application software?

## open source software?

* **Open source software is software with source code that anyone can inspect, modify, and enhance.**
* **"Source code" is the part of software that most computer users don't ever see; it's the code computer programmers can manipulate to change how a piece of software—a "program" or "application"—works. Programmers who have access to a computer program's source code can improve that program by adding features to it or fixing parts that don't always work correctly.**
* **Application software?**
* **Application software, or app for short, is software that performs specific tasks for an end-user.**
* **Effectively, if the user is interacting directly with a piece of software it is application software. For example, Microsoft Word or Excel are application software, as are common web browsers such as Firefox or Google Chrome.**
* **It also includes the category of mobile apps, including communication apps such as WhatsApp or games such as Candy Crush Saga. There are also app versions of common services such as those providing weather or transport information or apps for customers to interact with companies.**
* **Application software is distinct from system software, which refers to the software that actually keeps the systems running such as the operating system, computational science software, game engines, industrial automation, and software as a service applications.**
* **Instead of interacting with the user, the system software interacts with other software or hardware**.

**Q: 1. Part B? write different feature of system software?**

* **Features of the system software:**
* **• It is difficult to design.
• It is written in the low-level language, or you can say that it is written in machine language which is only understood by the machine.
• It is difficult to manipulate.
• System software is very close to the system.
• The speed of the system software is fast**

**Q: 2 Part A? discuss different functions of operating system?**

* **An operating system is a program on which application programs are executed and acts as an communication bridge (interface) between the user and the computer hardware**
* **functions of an operating System:**
* **Security –**
**The operating system uses password protection to protect user data and similar other techniques. it also prevents unauthorized access to programs and user data.**
* **Control over system performance –**
**Monitors overall system health to help improve performance. records the response time between service requests and system response to have a complete view of the system health. This can help improve performance by providing important information needed to troubleshoot problems.**
* **Job accounting –**
**Operating system Keeps track of time and resources used by various tasks and users, this information can be used to track resource usage for a particular user or group of user**.
* **Error detecting aids –**
**Operating system constantly monitors the system to detect errors and avoid the malfunctioning of computer system.**

**Q: 2 Part B? Explain the use of file transfer protocol and talent services?**

* **File transfer protocol (FTP)**
* **FTP service enable an internet user to move a file from one computer to another on the internet. A file may contain any type of digital information text docoment, images,art work, movie, sound, software, etc, FTP. Has two basic services.**
* **Downloading**
* **The process of moving a file from remote computer to one’s own computer**
* **Uploading**
* **The process of moving a file from one’s own computer to a remote computer.**
* **In FTP. Service a file transfer takes place in following manner:**
* **A user execute FTP. Command on his/her local computer,specefying address of the remote control.**
* **An FTP process running on user,s computer established a connection with a FTP process running on a remote computers.**
* **The system than ask the users to enter his/her login name and password on the remote computer to ensure that the user process permission to access the remote computer.**
* **After succesfull login, the user download,s or upload the desired,s file .**
* **That a user need acces right for a remote computer to transfer file to/from it.with this restriction, it is almost immposible to provide acces rights to the large number of users on the internet to a computer. That contain shareable information. The concept of anonymous FTP site solove this problems.**
* **Talent services:**
* **Tlaent servic enables an internet users to login to the another computer on the internet fron his/her local computer this is an user can execute the talent command on his/her local computer to start a login session on a remote computer.this action is also called a remote login.**

**Some common uses of talent services are,**

* **For using computing power of a remote computer**
* **For using some software on a remote computer’s which is not available on user,s local computer**
* **For loging in to one,s own computer from another computer.**

**Q: 3 Part A? explain metropolitan area network (MAN) with a suitable example?**

* **Designed to extend over a district,council or even an entire city**
* **It may be a single network suc as a cable television network, or it may be a means of connecting a number of LANs into a larger networkso that resource may be shared LAN-to-LAN as well as device- to-device**

**Example:**

* **A company can use a MAN to connect the LANs in all of its offices throught out a city.**

**Q: 3 Part B? define topology? Which topology would you chose to setup a local area network and why?**

* **the branch of mathematics concerned with generalization of the concepts of continuity, limit, etc**
* **a branch of geometry describing the properties of a figure that are unaffected by continuous distortion, such as stretching or knottingFormer name: analysis situs**
* **maths a family of subsets of a given set S, such that S is a topological space**
* **the arrangement and interlinking of computers in a computer network**
* **the study of the topography of a given place, esp as far as it reflects its history**
* **the anatomy of any specific bodily area, structure, or part**
* **STAR TOPOLOGY:**
* **Each device has a dedicated point-to-point link only to a central controller,ussually called a (HUB)**
* **The device are not directly linked to each other.**
* **The controler (HUB) acts as an exchange.**
* **diagram:**

**Q: 4 In your opinion what are different types of common media used for storage acces and transmission of information? Explain each types in detail?**

* **Q no 4 .**
* **Ans. There are various types of storage media, including magnetic tape, nonvolatile memory cards, rotating fixed disk and solid-state drives (SSDs), which are based on nonvolatile flash memory. The term storage encompasses all data, and can be either primary or secondary storage**
* **Types of Transmission Media**
* **In data communication terminology, a transmission medium is a physical path between the transmitter and the receiver i.e. it is the channel through which data is sent from one place to another. Transmission Media is broadly classified into the following types:**
* **1. Guided Media:**
* **It is also referred to as Wired or Bounded transmission media. Signals being transmitted are directed and confined in a narrow pathway by using physical links.**
* **Transmission Media is broadly classified into the following types:**
* **Guided Media: It is also referred to as Wired or Bounded transmission media. …**
* **(i) Twisted Pair Cable – …**
* **(ii) Coaxial Cable – …**
* **(iii) Optical Fibre Cable – …**
* **Unguided Media: …**
* **(i) Radiowaves – …**
* **(ii) Microwaves – …**
* **(iii) Infrared –**
* **Transmission media is a communication channel that carries the information from the sender to the receiver. Data is transmitted through the electromagnetic signals. … Transmission media is of two types are wired media and wireless media.**
* **Transmission media refer to the media through which data can be carried from a source to a destination. Data is transmitted from one device to another through electromagnetic signals. … The different categories of transmission media include guided (or wired) and unguided (or wireless) media**

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