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System Softwares

Tutorial 1

Ans 1: Utility Software is a software designed to help to analyze, configure, optimize and maintain a computer.
It is used to support computer infrastructure.
Some of the commonly used utility software are antivirus tools, clipboard manager, debuggers, network monitors, etc..

Ans 2: Different types of Utility softwares are:-
- System utilities :- Antivirus tools, clipboard manager, debuggers
- Storage device management utilities :- Backup softwares, Disk Managers, ~~Boot~~ Disk defragmenters
- Filemanagement utilities :- File manager, Disk cleaner, Crypotographic utilities, Data recoveries.
- Miscellaneous utilities :- Data generators, HTML checkers, screensavers, Hex editors.

Ans 3: System software is the type of software which is the interface between application software and system.
These are low level language developed softwares which are more compatible to interact with the hardware.
These are used for operating the system in computer.
System software ~~are the~~ can be run independtly on a computer.
For example, compilers, interpretors, assemblers

Application software is the type of software which runs as per user request.
It runs on the platform provided by system software.
Application softwares are developed in high level languages as they serve a specific purpose to the user.
Application softwares are installed or removed whenever required by the user.
Application software interacts with the user via an interface.
They are dependent on system softwares and cannot be used unless a proper set of system softwares is installed on the computer.

Ans 4:

System software	Application Software
• Developed in low level languages.	• Developed in high level languages.
• More in ~~synch~~ synchronisation with hardware.	• More in synchronisation with user and user interface.
• Can be installed only on top of an operating system.	• Can be installed only on top of valid set of system softwares
• Runs independtly.	• Runs depending on the underlying system software.
• Eg:- Compilers, interpretors, assemblers, etc..	• Eg:- Word processor, Web browser, music player, etc.

Ans 5: Procedure oriented programming language describes the procedure of the program. The importance is given to the procedure. These type of languages are ~~difficult~~ difficult to learn.

Ans 6:

Problem oriented language is a language that gives importance to data. The languages are database oriented that stores and uses data. The language is similar to english and hence, easier to learn.

Ans 6. The programming language in terms of their performance reliability and robustness can be grouped into five generations:-

- First Generation Language (Machine level) :- Typically low level languages because they were used to program the computer at a very low level of abstraction. For example, ~~assembly language~~ machine language consisting of 0's and 1's.

- Second Generation Language (Assembly Language) :- Comprises of assembly languages that uses concept of ~~mnemonics~~ mnemonics for writing the program.

- Third Generation Language (High level languages) :- Designed to overcome limitations of second generation languages. They enable the programmer to concentrate only on the logic of the program abstracting away the internal architecture of the system.

- Fourth Generation Language (Very High level Language) :- Designed to reduce time, cost and effort needed to develop software applications.

- Fifth Generation Language (Artificial Intelligence Language) :- Focuses on constraint programming and employed by artificial intelligence and artificial neural networks.

Ans 7. High level languages have some advantages over Machine level languages :-

- They are easy to learn because of their english like mnemonics
- Allows developers to focus on the logic and optimal algorithm efficiency.
- Provides abstraction to internal architecture of the system & ease the developer.
- Machine independent code and far less error prone.

For example, python, C++, javascript, java, etc..