Q) What is program and its types?

Ans -> A program is a set of instructions that a computer uses to perform a specific function.Programs are created using specific programming languages such as C++, Python, and Ruby.

There are two categories of programs. Application programs (usually called just "applications") are programs that people use to get their work done. Computers exist because people want to run these programs. Systems programs keep all the hardware and software running together smoothly.

Application Programs	Systems Programs
● Word processors ● Game programs ● Spreadsheets ● Data base systems ● Graphics programs ● Web browsers	● Operating system. ● Networking system. ● Database system. ● Programming language software. ● Web site server. ● Data backup.

Q) What is shell

Ans -> The shell can be defined as a command interpreter within an operating system like Linux/GNU or Unix. It is a program that runs other programs. The shell facilitates every user of the computer as an interface to the Unix/GNU Linux system. Hence, the user can execute different tools/utilities or commands with a few input data.

Q) What is kernel and its types?

Ans -> The kernel is the essential foundation of a computer's operating system (OS). It is the core that provides basic services for all other parts of the OS. It is the main layer between the OS and underlying computer hardware, and it helps with tasks such as process and memory management, file systems, device control and networking.

Kernels fall into three architectures: monolithic, microkernel and hybrid.

Q) What is meaning of #, $, / ?

Ans ->

- # Shows the user is root user

$ - $ is used to store the current location into a variable

/ - / represent the position of any file or folder

Q) Difference between monolithic and micro kernel?

Ans ->Microkernels :- Microkernels have all of their services in the kernel address space. For their communication protocol, microkernels use message passing, which sends data packets, signals and functions to the correct processes. Microkernels also provide greater flexibility than monolithic kernels; to add a new service, admins modify the user address space for a microkernel.

Monolithic kernels:- Monolithic kernels are larger than microkernels, because they house both kernel and user services in the same address space. Monolithic kernels use a faster system call communication protocol than microkernels to execute processes between the hardware and software. They are less flexible than microkernels and require more work; admins must reconstruct the entire kernel to support a new service