DINS

Operating system:

Process and threads.

A process is an active program. An abstraction, operating system entities.
Each process has:

- -own address space
- -stack
- -code
- -data
- -list of files which is opened by the process

It is the responsibility of operating system to manage all the running processes of the system. Operating system manages processes by performing tasks such as resource allocation and process scheduling. The operating system also has to synchronize the different processes.
Each process has at least one thread.

A thread is a subset of the process .They reside inside a process and share the address space of the parent process along with other resources which can be passed during thread creation such as filesystem resources, sharing pending signals, sharing data(variables and instructions)
Threads have a shared memory,data,resources,files etc.

What do I find interesting? Multiprocessing is better for CPU bound tasks, and Multithreading for I/O bound tasks.

Network technology:

TCP, UDP:

The transport layer is represented by two protocols: TCP and UDP. The protocols of this layer provide end-to-end communication services for applications.
TCP (Transmission Control Protocol)- for creating the connection, TCP generates a virtual circuit between sender and receiver for the duration of a transmission. TCP assigns a sequence number to each byte transmitted and expects a positive acknowledgement from the receiving TCP (reliability). If ACK is not received within a timeout interval, then the data is retransmitted to the destination.

UDP (User Datagram Protocol) - transmits the data directly to the destination computer without verifying whether the receiver is ready to receive or not. It is an unreliable protocol.

What do I find interesting? In the last few years, the UDP protocol has become more popular because of the popularity of mobile Internet technologies. Previously,

everyone had wired Internet connection at home, so data packets were lost because of network congestion. But reasons are different, and many companies are looking for new opportunities to make internet connection faster and more reliable. That is why they use UDP.

Logical task:

It is guaranteed that all buttons have the wrong labels. So we click on the “Random” button (but we know that it cannot be “Random” in fact).
Further, by the elimination method: if “Random” is “On”, then the button “On” is actually “Off” (because the last label is wrong too), and the last one is “Random”.

Answer: 1