Name: UROOJ FATIMA

Which is better Spooling or Buffering?
Why we need OS? What facilities it provides to user for ease of use?

Date____

OS TEST

UROOJ FATIMA   **SE-19017**   **SEC A**

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Which is better spooling or buffering?

The CPU is initially faster than the Input output devices therefore most of the time CPU remains idle and with no work therefore spooling and buffering was introduced to maximize the usage of the CPU. First we should know what buffering and spooling actually is. ————

Buffering:

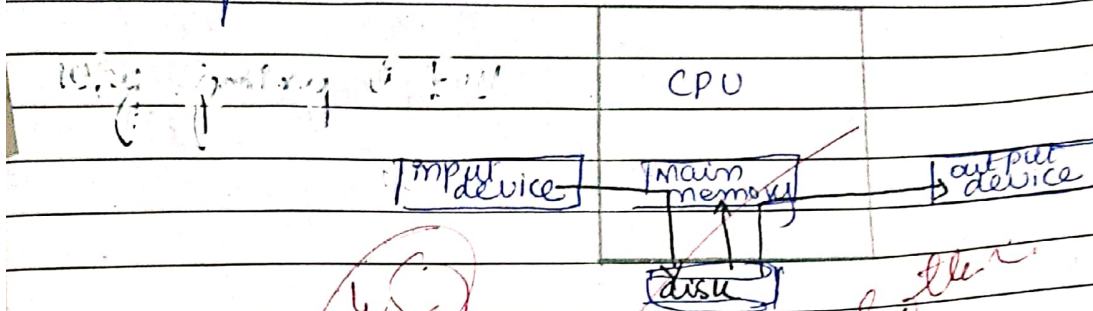It is a temporary storage location where data before transferring to main memory is stored. Buffers for execution are locations in main memory. Buffering works on single Input output job that is the processing of same job is being done whose input output is being performed.

Example:- Suppose online Streaming of video is being watc simultaneously while on download. what happens is the portion of the video downloaded can be seen. If inte is fast buffer would be needed for small time and for slow internet buffer would be required for larger time.

Spooling:

Spool stands for simultaneous peripheral online operation Spooling is the process where multitasking is supported. Simultaneously while CPU is processing the I/O of different job may arrive. Here the input da

is sent to storage device and the inputs donot need to wait for CPU to process the data. Simultaneo large number of input can be transferred of different jobs and stored on memory. Anytime when the input is to be processed it is sent to memory and memory sends output to storage again from where output is transferred to the output device.

why spooling is better than buffering?

Spooling is far more better than buffering because.

① It offers multitasking in a way that the work can be done on different jobs as discussed earlier that is input of another job may be sent while one job is being processed.
E.g: The printing is being done while the request and input for a command line program is given.

② Spooling is faster than buffering because when the job is I/O bound and involved more work of input.

③ Spooling can use whole memory of the disk while buffering uses only fixed location in the main memory. Hence as spooling has more storage then the speed increases plus more data can be accomodated.

Q2: why we need OS? what facilities it provides to user for ease of use?

Operating system: (OS)

It is an intermediate between user and hardware and provides a useful and easy interface to the user.

Why we need OS?
The OS has two main functions.
① It acts as virtual/extented machine.
② It ...... resource management.

The need of the OS can be illustrated with the help of the functions.
① Acts as a virtual/extended machine.
• It ishie
• The hardware is extended through a virtual machine namely OS that hides the hardware details from the user.
• It protects user and provides hassle free working experience as everything is only few steps away.
So, as it provides convinent use to user it is needed to speed up tasks of the user effectively and efficiently.

The OS is made efficient and effective in a way that ① ensures maximum utilization of the memory and resources.
① It stores data on disk accurately.

EAGLE

Teacher's Signature.

③ It chooses the most time saving technique for the user.

④ OS cleanly do context switching.

⑧ Resource manager:

① As the computers are multitasking so, several processes are being runned at the same time therefore managing the hardware resources a distributing it to each job is challenging but this is done by OS.

② The OS ~~performs~~ manages memory, process, I/O, file management etc.

• Memory management.

As ~~CPU is integral part and performs every~~ As everything is executed in memory so deciding ~~and pro~~ which task should get more memory and which should be prioritize is done by OS.

• Process management
CPU is the main processing wing and ~~exe~~ helps in execution of processes. processes can be time-shared, spooling etc. so OS facilitates in creation, deletion and updating process whe user himself can not do this with machine langu

similarly other resources like managing file storage cannot be handled by user himself as it takes more time. Hence OS is needed.

) OS provides protection and security it never allows unauthorized tasks to be runned. ~~This~~ But if OS does not exist user would've fallen to vulnerabilities. ~~OS prote~~

• OS provides options of password protection to ensure security.

④ Lastly, OS is needed as it provides ease of use to the user in a way that

- It keeps user away from the pressure of what hardware is used and how if will manage resources and stores data as it provides shield to hardware.

Application software.
system software
Operating system
machine learning
microprogramming
Hardware

This all complexity is hidden by OS.

- The user donot need to learn commands while using a GUI as it is already programmed in so user can do work only on few clicks.
- User donot need to have knowledge of how interrupts will stop program, what machine learning actually is and how low level code is generated as this all is already handled by the OS in background.
- OS hides details like what business interrupt timer, scheduling all this is done by OS and user donot need to schedule tasks.
- It provides a reliable support as if he runs things in machine code then a mistake of one command would disrupt system but it is done by OS.

- The user not need to allocate memory equally to tasks this will be cleanly done by the OS and it allocates and deallocates memory convinently.
- User donot need to worry how data stored

in tracks and sectors as a clean view of files is showed by OS.

Hence, OS saves user from problems and time wasting tasks.