Assignment No 1

Spring 2021

CSE-204 Operating System

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Class Section: **B**

"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work."

Student Signature: _____

Submitted to:

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Q16: Which of modren O.S are Intrrupt driven:-
list the advantages driven System.
What is Alternative mechanism if there were no Intrrupts and how it work:

Ans

Intrrupt driven O/S:

An O/s in which the Interrupt System is mechanism for reporting all changes in the State of hardware and Software resource, and Such changes are the event that Indire new assignments of these resource to meet Workload demand.

Typs of Interrupt:

Two main types

- Hardware Interrupt
- Software Interrupt.

i, Hardware Interrupt:

An electronic signal Sent from external device or hardware to Communicat with the processor.

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Indicating that it requires Immediate attention.

For example:
Stroke from a Keyboard or an action from mouse invoke hardware Interruptions Causing the CPU to read and process it.

it Further divided

- Maskable Interrupt
- Non-maskable Interrupt.

i) **Maskable Interrupt:**
processor have to Interrupt mask register that allow enabling and disabling of hardware Interrupt

ii) **NON-maskable:**
The NMIS are the highest priority activities that need to be processed immediately and under any situation, such as timeout Signal generated from watchdog timer.

(2) Software Interrupt:

the processor it self request a Software Interrupt after executing certain Instruction or if particular Condition are met.

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Advantages:

→ Increase efficiency of CPU
→ decrease waiting time of CPU
→ Stop the wastage of Instruction Cycle.

Alternative mechanism:

Interrupts are important b/c they give the user better control over the Computer. Without Interrupts a user may have to wait for a given application to have a higher priority over the CPU to be ran. This ensures that the CPU will deal with the process immediately.

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Q2. Comparison b/w Android & IOS

Ans:

Android	IOS
Released 23 Sep 2008	July 29, 2007
A lot can change almost anything Open Source	Limited unless Jail broken closed with open Source Component.
Easier than IOS	more difficult
widget: yes except on lockscreen	Yes accept on lockscreen.
Internet browsing Google chrome	Internet browsing Safari
web mapping Service Google map	web mapping service Apple map (default). Google map also available via Separate app download.
100+ language available	40 language available.
Video chat: google meet and other 3rd party apps	Video chat: face Time (Apple device only) and other 3rd party app.
OS family: linux	OS X, UNIX
Security: monthly Security update	occasional Security update.
Cloud Service, Native Integration with google Drive Storage	native Integration with iCloud.
have longer battery life time.	Apple battries are generally not as big as the largest Android.

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Comparison about betters:

Historically, OS was considered to be a more user-friendly operating systems compared to Android. However it is not true anymore. Both platforms have became extremely polished and easy to use. But, In general OS is slightly simpler and more streamlined while Android offer more features to power user.

Android is more versatile as Compare to OS.

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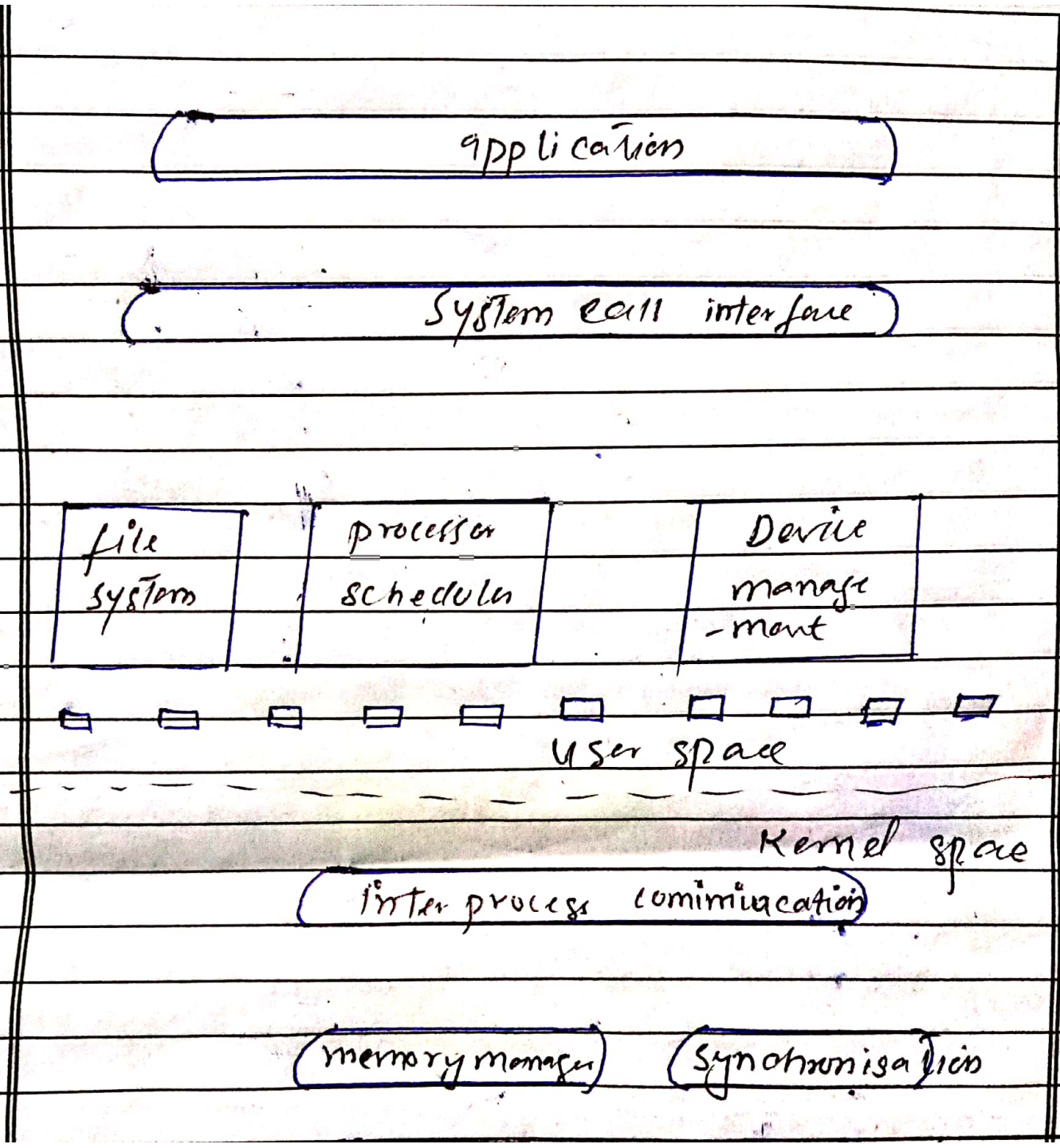
Ans 3:

MicroKernel OS:

In Computer Science a Microkernel is the near-minimum amount of Software that can provide the mechanism needed to Implement an operating System these mechanism include low level address space management, thread management and interprocess Communication. if hardware provide multiple rings or CPU modes, the micro kernel may be the only Software executing at the most privileged level, which is generally referred to Supervisor or Kernel mode In term of the Source Code Size, micro Kernel are often Smaller than monolithic Kernels. the Minix 3 microkernel, for example has only approximately 12000 line of Code.

P → Tpc



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How it is better than layered architecture.

The main difference between monolithic and layered operating system is that In monolithic operating system entire O.S work in Kernell Space while layered O.S have no of layers each performing diff task.

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The END of Assignment – 1

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