**WEEK 1 TASK**

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1. How a Real Time System differs from a Normal System?

Real time system uses scheduling strategy to prioritize each tasks or processes where each of it has a deadline. If any of the job is delayed, the consequence will result a huge loss or major problem. Example application of real time system in the real world are flight traffic control system, medical surgical and ICU system, military ship system, etc.

A normal system would be focused on getting things done in a fixed phase relation without any scheduling strategy or priority. Example stopwatch system, where the user only needs to press start button to start the time process and stop button to stop the time process.

2. What are the major differences between Hard- and Soft-Real time systems? Give 3 examples of each one.

* Hard Real Time System
* Low response time rate, usually in millisecond
* Highly restrictive and crucial for safety reasons
* Has rolled back features to avoid error
* Peak load performance is predictable

Soft Real Time System

* High response time rate
* Less restrictive and not crucial for safety reasons
* Has rolled back features but only to last established checkpoint made
* Peak load performance can be tolerate

3. Describe the two scheduling strategies, i.e., Pre-emptive and Non pre-emptive.

Pre-emptive scheduling strategy

It is used when a process switches from running state to ready state or from queue state to ready state. The CPU and memory resources are allocated to the process in limited time before taken away. The process will be reallocated back in the queue state if the process still has remaining execution time of the process then it will remain to stay until the process gets the next chance to execute.

Non pre-emptive scheduling strategy

It is used when a process terminates or switches from running to waiting state. The CPU and memory resources are allocated to the process and hold the CPU until it gets terminated or reaches waiting state. The scheduling does not interrupt any processes that are still running CPU in the middle of execution. It will wait until the process complete its execution time of the process, then allocate the CPU to another process.