

Report: Answer the Following Questions

Deadline: Monday 11-01-2021 @ 11.59 PM -- To: ahmedaboulroos@gmail.com

Be Detailed as much as you can and try to Provide Code Samples, Drawings, UML, ...

Q1. What is the Difference between?

- Process & Thread
- System Thread & User-Defined Thread & Daemon Thread
- Parallelism & Concurrency
- Synchronous & Asynchronous Programming
- Callable & Runnable & Supplier interfaces
- StringBuffer & StringBuilder
- Synchronized Collections & Concurrent Collections
- Inter-Process Communication & Inter-Thread Communication

Q2. What is?

- Thread Creation Techniques
- Thread States
- Context Switch
- Thread Priority
- Polling
- Thread Safety
- Liveness
- Dead-Lock (How to Avoid, Recover, Detect)
- Live-Lock
- Starvation
- Thread contention
- Thread interference
- Thread interrupts
- Memory Consistency errors
- Synchronization
- Fork/Join Framework (and when to use it)
- Race Condition
- Shared Mutability
- Double Checked Locking of Singleton
- Parallel Streams

Q3. What happens when an Exception occurs in a thread?