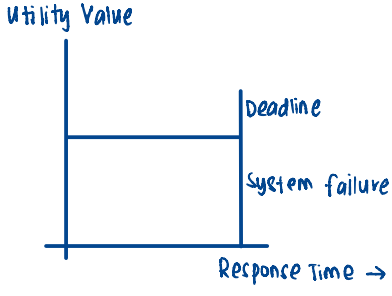
Difference Between Types of Real Time System

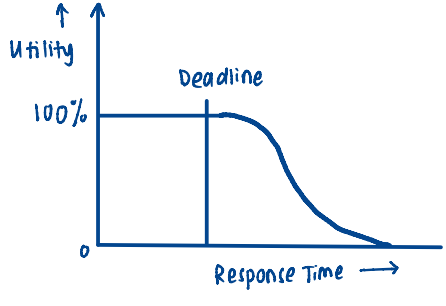
① Hard Real Time System

- Time requirement is a critical constraint.
- The system should perform within the deadlines
- If the task performed exceed the deadline, it is considered as task failure.
- Missing deadlines can be catastrophic
- Example : air traffic control system, missile and nuclear control system.



② Soft Real Time System

- Time requirement is not very crucial.
- The system should perform task within the deadline but there can be a small tolerance occasionally.
- If the system did not perform task within the deadline, it is not considered as failure as long as it provides the required output. However the performance is considered to be degraded.
- The systems are less restrictive.
- Examples : multimedia streaming, advanced scientific project and virtual reality.



③ Firm Real Time System

- These type of RTOS need to follow deadlines.
- Missing deadlines may not have big impact but can cause undesired affects such as reduction in the quality of product.
- Missing many deadlines may lead to complete or catastrophic system failure
- Examples : various types of multimedia applications