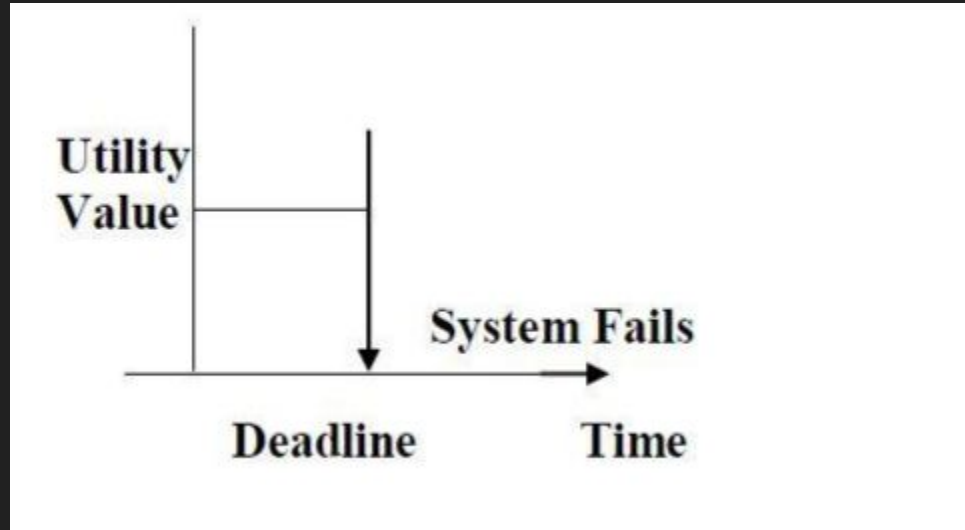# REAL-TIME SYSTEMS

Types of RTS with examples

Hard Real-Time System

- **Can never miss deadlines**
- **Missing deadline results in disastrous consequences**
- **Usually involves fatality and are high in cost**
- **Examples:**
- **Flight Controller System**
- **Railway Signaling System**
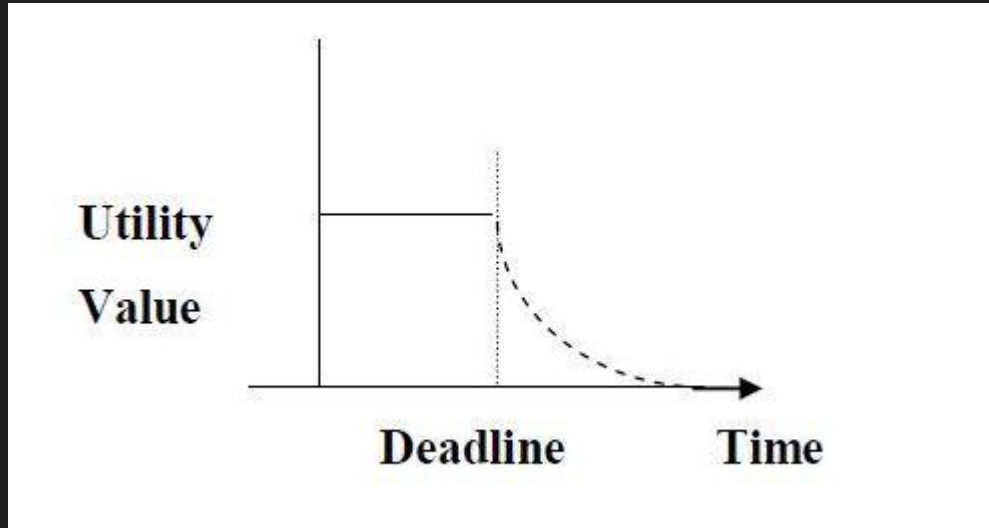- **Nuclear Reactor Control System**

Hard Real-Time System

Soft Real-Time System

- Can miss deadlines occasionally with acceptably low probability

- Missing deadlines have no disastrous consequences

- Deadline overruns are tolerable, but not desired

- Examples:

- Audio and video systems

- Video games

- Multimedia system

Soft Real-Time System

Firm Real-Time System

- A few missed deadlines will not lead to total failure
- Missing more than a few leads to catastrophic or complete system failure
- Missing deadlines lead to loss of profit
- Examples:
- ATM
- Stock Market

Firm Real-Time System