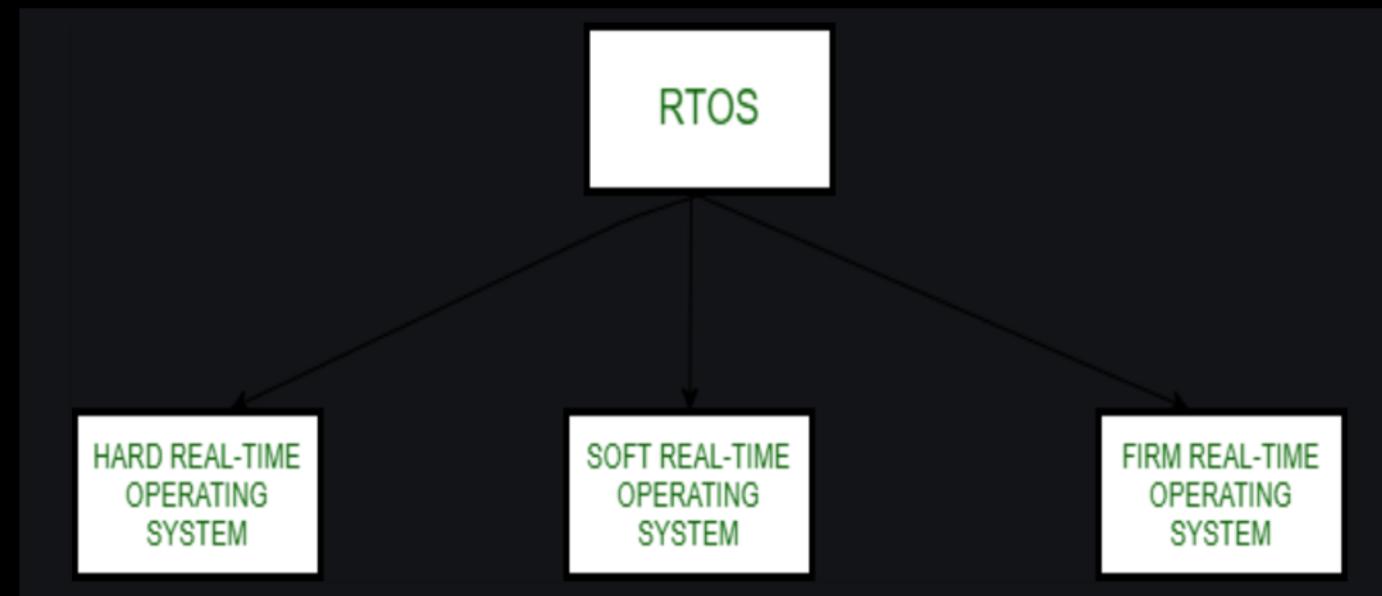


# **REAL TIME OPERATING SYSTEM (RTOS)**

- Real-time **operating systems (RTOS)** are used in environments where a large number of events, mostly external to the computer system, must be accepted and processed in a short time or within certain deadlines. such applications are industrial control, telephone switching equipment, flight control, and real-time simulations

## THE REAL-TIME OPERATING SYSTEMS CAN BE OF 3 TYPES –



## 1. Hard Real-Time **operating system**:

These operating systems guarantee that critical tasks be completed within a range of time. For example, a robot is hired to weld a car body. If the robot welds too early or too late, the car cannot be sold, so it is a hard real-time system that requires complete car welding by robot hardly on the time.



## 2. **Soft** real-time **operating system**:

This operating system provides some relaxation in the time limit. For example – Multimedia systems, digital audio systems etc. Explicit, programmer-defined and controlled processes are encountered in real-time systems. A separate process is changed with handling a single external event. The process is activated upon occurrence of the related event signalled by an interrupt.



### 3. Firm Real-time **Operating System**:

RTOS of this type have to follow deadlines as well. In spite of its small impact, missing a deadline can have unintended consequences, including a reduction in the quality of the product. Example: Multimedia applications.

