**Difference between RTOS and General OS**

1. RTOS is deterministic . General computing OS is non-deterministic.
2. RTOS are scalable.Adding of required components are allowed in RTOS.Hence the size of the image of RTOS can be reduced upon the available memory.
3. Good RTOS never supports virtual memory . The applications are loaded entirely i.e. There is no demand paging.
4. Tasks( Thread in General OS ) are scheduled globally rather than processes in RTOS ( In VxWorks).
5. A normal OS doesnt have preemption at the kernel level whereas the RTOS has a preemptive kernel. For this, the scheduler has to be re-written in such a way that it takes care of pre-emption

(Note:About deterministic-The key difference between general-computing operating systems and real-time operating systems is the need for " deterministic " timing behavior in the real-time operating systems. Formally, "deterministic" timing means that operating system services consume only known and expected amounts of time. In theory, these service times could be expressed as mathematical formulas. These formulas must be strictly algebraic and not include any random timing components. Random elements in service times could cause random delays in application software and could then make the application randomly miss real-time deadlines – a scenario clearly unacceptable for a real-time embedded system. Many non-real-time operating systems also provide similar kernel services.

General-computing non-real-time operating systems are often quite non-deterministic. Their services can inject random delays into application software and thus cause slow responsiveness of an application at unexpected times. If you ask the developer of a non-real-time operating system for the algebraic formula describing the timing behavior of one of its services (such as sending a message from task to task), you will invariably not get an algebraic formula. Instead the developer of the non-real-time operating system (such as Windows, Unix or Linux) will just give you a puzzled look. Deterministic timing behavior was simply not a design goal for these general-computing operating systems. )

**Doubts**

Is Embedded Linux is RTOS

Examples of RTOS