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[Cyient Embedded C Interview Questions](#)

Q1. [What is RTOS?](#)

A **real-time operating system (RTOS)** is a running system that supports a particular skill within a particularized time restraint. For instance, an operating system can be produced to assure that a particular object was possible for an automaton on an arrangement line. In everything it is normally termed a "hard" real-time operating system, if the prognosis may not be implemented for creating the object ready at the assigned period, the operating system would eliminate with a crash.

In a "soft" real-time operating system, the arrangement line would proceed to perform but the composition output can be cheaper as objects declined to seem at their assigned time, making the automaton to be momentarily unproductive. Many real-time operating arrangements are designed for a specific administration and others are added general plans.

Q2. [What is ISR?](#)

ISR stands for "Interrupt Service Routine." An **ISR** (also termed an interrupt handler) is a software method requested by an intervention offer from a hardware method. It examines the application and assigns it to the CPU, disrupting the current method. While the ISR is concluded, the method is returned.

A primary instance of an ISR is a method that manages keyboard functions, such as holding or delivering a key. Every time a solution is compressed, the ISR prepares the information. For instance, if we compress and uphold the right arrow indicator in a document file, the ISR will indicate to the CPU that the right arrow key is pressed. The CPU transmits this data to the current word processor or document editing application, which will transfer the cursor to the right. When we let perform of the solution, the ISR examines the "key up" function. This prevents the prior "key down" position, which indicates the plan to stop relocating the cursor.

Q3. [What is return type of ISR?](#)

ISR does not return anything. An ISR returns nothing because there is no caller in the code to read the returned values.

Q4. [What is the need for DMAC in ES?](#)

Direct memory admittance is chiefly utilized to master the limitations of interrupt and program-controlled I/O.

DMA modules habitually take the handle across from the processor and execute the memory performances and this is chiefly because to prevent the mismatch in the processing rates of I/O systems and the processor. This is relatively faster.

It is an essential part of each installed arrangement, and the purpose of their advantage is that they may be utilized for erupted data alterations instead of single-byte access. It has to pause for the arrangements means such as the operation bus in circumstance it is previously in charge of it.

Q5. What is void pointer?

A **void pointer** is a pointer that has no associated data type with it. A void pointer can hold the address of any type and can be typecasted to any type.

Q6. How to minimize interrupt latency?

You can minimize interrupt latency by making your interrupt routine as short as possible if your hardware does not allow interrupt priorities because in this case a started interrupt routine can not be interrupted by another (higher priority) interrupt.

Also, avoid disabling interrupts in any routines if possible because interrupts will have to wait until allowed again.

Q7. What is priority inversion?

In computer science, **priority inversion** is a scenario in scheduling in which a high priority task is indirectly preempted by a lower priority task effectively inverting the relative priorities of the two tasks.

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