

1. What is the purpose of the NVIC peripheral?

The purpose of the NVIC (*Nested Vectored Interrupt Controller*) peripheral is important for managing interrupts in ARM Cortex-M processors. It can enable, turn off, and prioritize interrupts, ensuring it efficiently handles different interrupt requests.

2. What is the difference between interrupt tail-chaining and nesting?

The difference between interrupt tail-chaining and nesting. Tail-chaining happens when many interrupts of the same priority level are triggered one after the other without returning to the main. This optimizes context switching whereas nesting which allows higher priority interrupts to precede a currently executing lower priority interrupts, ensuring important tasks are handled quickly.

3. In what file are the CMSIS libraries that control the NVIC?

The CMSIS libraries that control the NVIC are contained in the *core_cm0.h* file.

4. What is the purpose of the EXTI peripheral?

The purpose of the EXTI (*Extended Interrupts and Event Controller*) peripheral enables generation of interrupts from GPIO pins as well as other sources, creating event driven programming by letting external events be able to trigger interrupts.

5. What is the purpose of the SYSCFG pin multiplexers?

The purpose of the SYSCFG (*System Configuration Controller*) pin multiplexers are used to route external pins signals into a limited number of EXTI lines. This lets the use of external interrupts be flexible from different pins.

6. What file has the defined names for interrupt numbers?

The *stm32f072xb.h* file contains the defined names for interrupt numbers.

7. What file has the Vector table implementation?

The Vector table implementation is located in *startup_stm32f072xb.s* file.