

Prove the correctness of the interrupt handling mechanism described in class. Specifically:

1. What is the constant in the response time?
2. Why is priority kept?
3. Why can there be at most 32 frames in the interrupt stack?
4. Show that the three properties of preciseness hold.
5. Show that every interrupt service routine terminates or that the process is aborted.
6. Show that every unmasked interrupt is eventually serviced (assuming a finite number of interrupts occurring).
7. During “clear Cause Register (CA)”, $CA[0]$ is reset to zero. Show that this does not lead to losing reset or power-up events.