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SysTick_Wait Question from C10 Quiz

Longest Delay?

Tried: 2**32 (for longword) * (12.5 **9) (the 12.5 ns) * 800000 = 461169 (incorrect)
Does anyone know what I'm doing wrong here? Thanks.

SysTick_Wait

(1 point possible)

Assume we are calling SysTick_Wait as defined in Program 10.2. The bus period is 12.5 ns (80 MHz). What is the longest delay in seconds that we can create by calling this function just once?

```
#define NVIC_ST_CTRL_R      (*(volatile unsigned long *)0xE000E010)
#define NVIC_ST_RELOAD_R    (*(volatile unsigned long *)0xE000E014)
#define NVIC_ST_CURRENT_R   (*(volatile unsigned long *)0xE000E018)
void SysTick_Init(void){
    NVIC_ST_CTRL_R = 0;           // disable SysTick during setup
    NVIC_ST_CTRL_R = 0x00000005;  // enable SysTick with core clock
}
// The delay parameter is in units of the 80 MHz core clock. (12.5 ns)
void SysTick_Wait(unsigned long delay){
    NVIC_ST_RELOAD_R = delay-1;  // number of counts to wait
    NVIC_ST_CURRENT_R = 0;       // any value written to CURRENT clears
    while((NVIC_ST_CTRL_R&0x00010000)==0){ // wait for count flag
    }
}
// 800000*12.5ns equals 10ms
void SysTick_Wait10ms(unsigned long delay){
    unsigned long i;
    for(i=0; i<delay; i++){
        SysTick_Wait(800000); // wait 10ms
    }
}
```

Program 10.2. Use of SysTick to delay for a specified amount of time (SysTick_Wait_xxxx.sip).

461169 - incorrect

461169



c10

Just now by Karen West

the students' answer, where students collectively construct a single answer

Click to start off the wiki answer

followup discussions for lingering questions and comments