嵌入式系统导论

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Question1.

How many bits wide is Port B? How many bits wide is Port F?

端口B有8bits宽，端口F有5bits宽。

Question2.

Why are there two shift right instructions (**LSR** and **ASR**)?

右移指令LSR是用于将当前的bit向右移动，同时在最高位上补零。而ASR指令是一个有符号的移位指令，当移动的时候依然保持符号信息。

Question3.

Why are there five versions of the LDR instruction? LDR, LDRB, LDRSB, LDRH, LDRSH

LDR用于实现从内存中加载32位比特值；

LDPH用于实现从内存中加载16位的无符号bit值；

LDRSH：从内存中加载16位的有符号bit值；

LDRB：从内存中加载8位的无符号值；

LDRSB：从内存中加载8位的有符号值；

Question4.

What address allows us to access just pin PA7?

用于连接引脚PA7的地址信息：

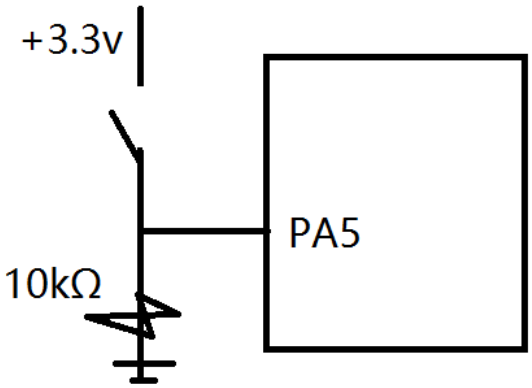
基础地址信息为：0x4000.4000；

移位地址信息为：0x200；

所以得到引脚PA7信息为二者的做和：0x4000.4200；

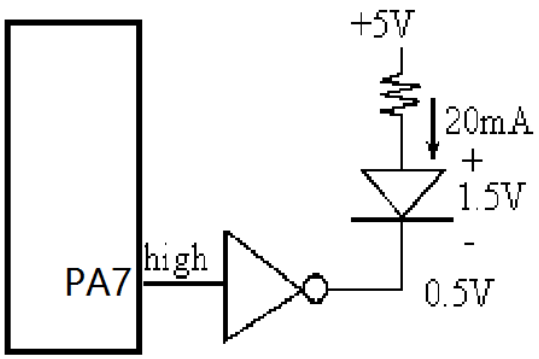
Question 5.

Interface a switch to Port A bit 5 using positive logic.



Question6.

Interface an LED to Port A bit 7 using positive logic. The LED parameters are 1.5V 20mA. Assume the output low voltage of a7406 VOL is 0.5V. Calculate the limiting resistor and give the connection Diagram.



Question7.

Interface an LED to Port A bit 4 using positive logic. The LED parameters are 1.4V 2mA. Assume the microcontroller output voltage VOH is 3.2V. Calculate the limiting resistor and give the connection Diagram.