(1) Calculate the 32 bit result of each of the following:

0x1a4927f3 & (~0xe2593943);

0x8a94a5e1 | 0x093ab31f;

(2) Two positive 16 bit signed numbers are added together and produce a negative result. The numbers in question are 32765 and 6. What is the negative result?

(3) A microcontroller's data sheet states that a 32 bit register called REGN is located at address 0x30009010. How would you write a (#define) macro that would allow programmers use expressions such as

x=REGN;

and

REGN=2;

in their code allowing them to interact easily with the memory register.

(4) Direction registers

What value must be written to GPIO0DIR to configure GPIO port 0 as follows:

Bits 0 to 5: Inputs

Bit 6: Output

Bits 7-10: Inputs

Bit 11: Output

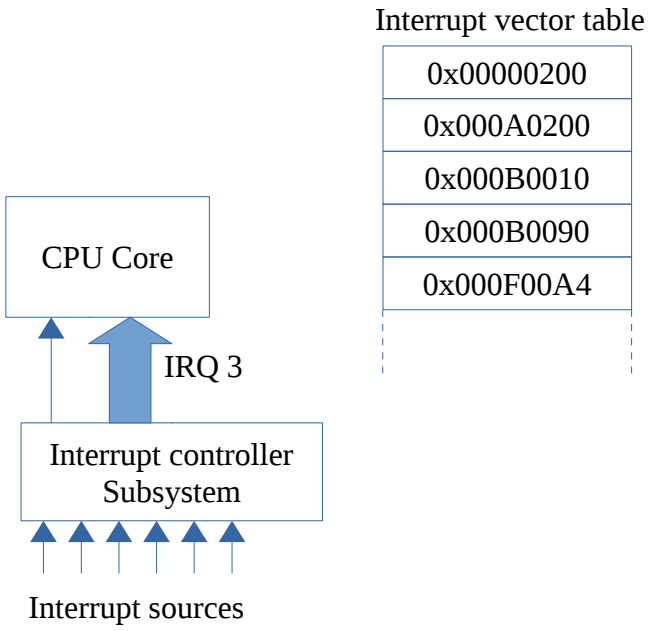
(5) Write one line of C code that will toggle BIT 6 of GPIODATA without affecting other bits.

(6) Write a line of C code that will wait for BIT2 of GPIO0DATA to become logic 1?

(7) Serial link speeds

A serial data interface operates at 19200 bits per second. Assuming there is NO transmission overhead (i.e. it only takes 8 bit periods to send a byte) how long will it take to send 10MiB of data?

(8) In the diagram below, a CPU core receives an Interrupt ReQuest 3 message from the Interrupt controller. The Interrupt Vector table contains the entries shown. What address does the CPU jump to in response to the interrupt?



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