2.

1.To properly configure the Lego controller I have to write the value 0x07f557ff to the direction register, which is located at address 0x10000064 .

2.To turn on motor 2 I have to set bit 4 at memory location 0x10000060 to the value 0.

3.

a.To enable sensor 1 for reading I have to write the 32-bit value data register into address 0x10000060 . By doing so, I will also implicitly turn motor 2 on.

b.Then to check if sensor 1 is giving a valid data I have to read bit 13 from address 0x10000060 and test if the bit has the value 0.

c.Then to read the value of sensor 1, I have to read bits 12 to 28 from address 0x10000060.

3.

1. The timer counts downwards on a 50MHz clock

2. Use 2 16-bits register “Periodh” and “Periodl” (But these 2 registers take up 32-bits of the address space)

3. 1 millisecond later

4. By writing to either one of the snapshot registers (the written value is ignored), the current value of Periodh and Periodl, will be copied into the corresponding snapshot registers, which can then be read.

5. Read the current remaining value from the snapshots.