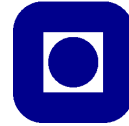


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Problemset 2 Spring 2015

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Problem 1.

Write a program that writes the bit contents of (*i*) integers, (*ii*) single precision real (or float) numbers and (*iii*) double precision real numbers as they are represented in your computer. That is, feed the program a number and get it to return the bit sequence.

Depending on the computer language — or the version of it — you are using, this may be simple or not. Some languages have the option of simply printing the bit contents to the screen. However, if this option is not available or you would like to like to get some experience in working on the bit level (which is the aim of this exercise), you may use the bit functions built into your compiler to take the numbers apart and assemble them again at the bit level. In doing so, you will most probably get into trouble when dealing with double precision numbers. Bit functions are not standard and you have to look them up for the compiler you are using.

Problem 2.

Write a program that determines the precision of the machine you are using when dealing with real numbers.