**Lab 2.2 Number systems**

**General**

Answer the questions in the MarkDown document, do this with the comment tag.  
Upload the MarkDown file in the assignment in LEHO when finished.

**Questions**

1. Note all the bit series you can create with 4 bits.

16

1. What is bigger, 1 KiB or 1KB?

1 KiB = 1 024 Byte en 1 KB = 1000 byte

1. How many HD movies can you store on a 1TB hard drive? Note: 1 HD movie is 4GB

1000 / 4 = 250 movies

1. A MAC address consists of 6 bytes, how many network cards can you have in 1 network?

64

1. Convert the number 512 to binary, write down the full calculation.

1 0 0 0 0 0 0 0 0

1. Convert the number 86 to binary, write down the full calculation.

1 0 1 0 1 1 0

1. Convert the number 0010 0101 1000 to decimal, write down the full calculation.

600

1. Convert the number 0010 to decimal, write down the full calculation.

(0\*2\*\*3) + (0\*2\*\*2) + (1\*2\*\*1) + (0\*2\*\*0) =

0 + 0 + 2 + 0 = 2

1. Convert this IPv4 address to binary: 172.21.16.100.

1010 1100 . 10101 . 10000 . 1100100

1. Convert the number 765432 to hexadecimal

BADF8

1. Convert the number 0xD4B18 to decimal

(13 \* 65536 ) + (4 \* 4096) + ( 11\* 256) + ( 1 \* 16) + (1 \* 8 ) =

581968 + 16384 + 2816 + 16 + 8 = 871192

1. Convert the number 0x53D1 to binary

voorzip

1. Create a .zip file with the solutions of lab 1.1, 1.2, 2.1 and 2.2 - how much data is compressed?