Name	Signature	Student Id Nr	Points

## 581305-6 Computer Organization I, miniexam 2, 1.12.2015 (10p)

Write your answer on this exam paper in the space given. Please notice, that the exam paper is 2-sided.

a) [2 p] What is the 32 bit representation for Big Endian 2's complement integer -33 in byte address 0x33445566? What would be its Little Endian representation? Which bits in each byte?

b) [2 p] What is the "hidden bit" in IEEE floating point standard? What advantage does it give? How do you need to take it into consideration with arithmetic operations?

c) [2 p] What problem is there in comparing two floating point values with equality expression? For example, if (x == y+z) then ... else ...; /\* x = 3.3333, y = 2.2222, z = 1.1111 \*/
What would be a better way to do the code in the example?

d) [2 p] Explain a rough level, what Hamming code does and how it works.

e) [2 p] For what type of errors and in which type of environments is Hamming code intended for? Give an example. Is the check done at hardware or software level?

For what type of errors and in which type of environments is Hamming code not sufficient? Give an example. How should you do the error check now?