York University

Dept. of Computer Science and Engineering

EECS2021
Computer Organization
Quiz 2 – 25 minutes
Nov. 11 2015

Question 1 – 6 points

7.5625

Convert the binary number 111.1001 to decimal exactly: ___*7 + 0.5 + 0.0625 =*___

What is the decimal value of the 8-bit two's complement binary number 11001111?

___*49*___ *11001111 negate 00110001*

Convert the unsigned binary number 01101011 to the following bases:

decimal: ___*107*___

hexadecimal: ___*6B*___

What is the sum (in binary) of the 8-bit unsigned binary numbers 11000110 and

01010010?

11000110
01010010
100011000

_____

What is the sum (in binary) of the 8-bit two's complement numbers 01011110 and

11001010?

01011110
11001010
00101000

_____

[1] O.V.

Question 2 – 4 points

Write the C/java equivalent of the following mips sequence of instructions

Assume that the variable A is in $t0, and B is in $t1

```
          slt     $t2, $t0, $t1
          beq     $t2, $0, LABEL
          addi    $t0, $0, 7
          j       EXIT
LABEL :   addi    $t0, $0, 8
EXIT:
```

(handwritten, in red)

if $A < B$ $t2 = 1$

if $t2 == 0$ $A = A + 8$

else $A = A + 7$

if $(A < B)$

  $A = A + 7$

else $A = A + 8$