Graded Quiz 1

The following MCQ questions each carry 1 mark. Total 13*1 = 13 Marks. Each question has one attempt.

Multiple Choice

1.0/1.0 point (graded)

When encoding into machine code, what would be the value of RS and RT field respectively for the instruction: `LW $7, 36($5)` ?

- 🔘 00101 and 00111 respectiveley
- ⚪ 00101 and 01100 respectiveley
- ⚪ 00111 and 00101 respectiveley
- ⚪ 00011 and 100100 respectiveley

✔

Submit	You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

For loading UTF-16 encoded characters (Each characters are encoded using 16 bits) into a register in MIPS architecture, which of the following instructions should be used?

- ⚪ LB
- ⚪ LBU

○ LH

○ LW

○ SB

✔

Submit   You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

For the C code: `x = A[i]` , what is the MIPS code?

Here x is in $s0, base address of A in $s1 and i is in $s2, and the array A contains 16-bit data

● `sll $s2, $s2, 1 , add $s0, $s2, $s1`

○ `sll $s2, $s2, 2 , add $s0, $s2, $s1`

○ `sll $s2, $s2, 1 , addi $s0, $s2, $s1`

○ `sll $s2, $s2, 16 , add $s0, $s2, $s1`

✔

Submit   You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

The instruction BLT is a/an-

○ R-format instruction

○ I-format instruction

○ J-format instruction

○ **Pseudoinstruction**

✔

Multiple Choice

1.0/1.0 point (graded)

Identify the correct encoding of `OR $10,$11,$5`

○ 000000 01010 00101 01011 00000 100101

○ 000000 00101 01010 01011 00101 100101

● 000000 01011 00101 01010 00000 100101

○ 000000 00101 01010 01010 00101 100101

○ 000000 00101 01010 11111 00101 100101

✔

Multiple Choice

1.0/1.0 point (graded)

In a procedure call, callee procedure has to save in stack which of the following register's contents?

○ $a0

○ $v1

○ $t1

● $s1

✔

Multiple Choice

1.0/1.0 point (graded)

Suppose, the exact memory location of A[i] is in $t0. Which instruction can we use to load the value of A[i+2] in $t1? (Consider the values of array A is in 32 bits)

- ○ lw $t1, 0($t0)

- ● lw $t1, 8($t0)

- ○ lw $t1, 4($t0)

- ○ lw $t1, 16($t0)

✔

Submit   You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

How many R-type instructions are possible in a 32-bit architecture?

- ○ 31

- ○ 32

- ○ 63

- ● 64

✔

Answer
Correct:
As funct field is 6 bit and opcode is always 0 for R-type, we can have 2^6 = 64 different values of funct field or that many different R-type instructions

Submit   You have used 1 of 1 attempt

Multiple Choice

Let's assume $10 holds initial value of 10. Now perform a 3-bit left shift of $10 and store that in $11. Now we perform 2-bit right shift of $11 and store the value in $11. We add value stored in $11 with value in $10 and save it in $11.

What is the current value of $11?

All the options are in binary

- ⦿ 11100
- 🔘 11110 ✔
- ⦿ 10110

Submit   You have used 1 of 1 attempt

ℹ Answers are displayed within the problem

Multiple Choice

Suppose, we want to store the values of $s1 and $s2 in the stack. If we consider 128-bit Architecture then what is the current position of $sp after storing the values of $s1 and $s2 in the stack?

- ⦿ $sp = $sp - 4
- ⦿ $sp = $sp - 8
- ⦿ $sp = $sp - 16
- 🔘 $sp = $sp - 32
- ⦿ $sp = $sp - 64
- ⦿ $sp = $sp - 128

✔

You have used 1 of 1 attempt

Submit

Multiple Choice

1.0/1.0 point (graded)

When encoding into machine code, what would be the value of RS and RT field respectively for the instruction: `SW $5, 12($3)` ?

- ○ 00101 and 00011 respectiveley

- ○ 00101 and 01100 respectiveley

- ○ 00011 and 01100 respectiveley

- ● 00011 and 00101 respectiveley

    ✔

Submit   You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

Suppose you want to subtract 1 from the value that is stored in register $t1 and then store the result in $s1. Additionally, register $t2 also holds 1.

$i)$ `subi $s1,$t1,1`

$ii)$ `addi $s1,$t1,-1`

$iii)$ `sub $s1,$t1,$t2`

Which of the given code snippet(s) can perform the desired operation?

- ○ i

- ○ ii

- ○ iii

- ○ i and ii

○ *ii* and *iii*

○ *i* and *iii*

○ *i, ii* and *iii*

✔

Submit   You have used 1 of 1 attempt

The following question holds 2 marks. You can press the submit button 2 times. Check the input properly before submitting it.

Question

0.0/2.0 points (graded)

Suppose the integer op code of `sb` is 40. Now encode `sb $30, 4611($1)` into its corresponding machine code.

Write your answer in 8-digit hexadecimal. If your answer is 0x01234567, write 01234567 only.

Answer: a03e1203

Submit   You have used 2 of 2 attempts

ⓘ   Answers are displayed within the problem

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