Quiz 2 [Updated]

Quiz due Mar 7, 2022 22:30 +06 Completed

The First 10 Questions Below Carry 1 Mark Each.

Multiple Choice

1.0/1.0 point (graded)

Which instruction can collect the value from EPC register?

- mfepc
- mov
- move
- mfc1
- mfc0 ✔
- mtc1
- mtc0

Submit You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

"Subtracting a negative number from a negative number will cause an overflow"- The statement is-

- True
- False ✔

Submit You have used 1 of 1 attempt

Multiple Choice

1.0/1.0 point (graded)

Suppose you have implemented the following pseudocode in Fortran:

```
int q = 15; //line #1

int p = 13; //line #2

x = y + 10; //line #3
```

When the line #3 gets compiled into MIPS, which of the following instructions will be used by the compiler?

- addiu
- addu
- addi ✔
- addui

✔

Submit You have used 1 of 1 attempt

MCQ

1.0/1.0 point (graded)

A program has 12500 instruction count with 2.1 CPI and the clock cycle time is 2s. If the Spec Ratio of the program is 7, then what is the Reference time?

- 367,500 ✔
- 91,875
- 307,211
- 96,482

✔

Submit You have used 1 of 1 attempt

Checkbox

0.0/1.0 point (graded)

Which choice(s) from below can help in performance improvement of a system?

Multiple answers possible and no partial marking

- [x] Using instructions with low number of clock cycles ✔
- [x] Increasing clock rate of the CPU ✔
- [x] Increasing instruction count
- [ ] Decreasing instruction count ✔

✖

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

MCQ

1.0/1.0 point (graded)

OS overhead is included in which of the following time measures?

- ○ Idle time
- ◉ Elapsed time
- ○ User CPU Time
- ○ I/O time

✔

Submit You have used 1 of 1 attempt

MCQ

1.0/1.0 point (graded)

Performance of CPU can be improved by:

- ○ Increasing clock rate and clock cycle
- ○ Increasing clock rate and execution time
- ○ Decreasing execution time and clock rate
- ◉ Increasing clock rate and decreasing clock cycle

✔

Submit You have used 1 of 1 attempt

MCQ

0.0/1.0 point (graded)

Which of the following is a characteristic of RISC architecture?

- ○ It contains pipelining. ✔
- ◉ Instructions generally take more than 1 clock to execute.
- ○ Size and format of instructions varies.
- ○ Works well with simpler compiler.

✖

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

MCQ

0.0/1.0 point (graded)

If we have different types of instruction in a program, what will be affected?

- (●) Performance of CPU will degrade
- ( ) Overall execution time decreases
- ( ) Average cycles per instruction varies ✔
- ( ) None

✖

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

MCQ

1.0/1.0 point (graded)

A CPU has 10 clock cycles. What will be the duration of a clock cycle, if time of execution is 15s?

- ( ) 150s
- ( ) 0.667s
- ( ) 15s
- (●) 1.5s

✔

Submit You have used 1 of 1 attempt

The following question has 5 parts. Each part carries 1 Marks. You can press the submit button maximum 2 times (Number of attempts: 2)

Numerical Input

5.0/5.0 points (graded)

In the given image, we are multiplying 1100 with 1010(Multiplier) with the **optimized multiplication hardware**, where the multiplicand is stored in a 4-bit register and the product is stored in a 8-bit register. You need to complete the table and input the values, that are marked in the table, in the given input fields below.

Iteration	Product	Multiplicand
0	Contents of the product register after initialization	1100
1	(a)	
2		
	(b)	
3	(c)	
4	(d)	
	(e)	

What is the value of (a)?
Give the answer in 8-bit binary.

00000101 ✔

What is the value of (b)?
Give the answer in 8-bit binary.

01100010 ✔

What is the value of (c)?
Give the answer in 8-bit binary.

00110001 ✔

What is the value of (d)?
Give the answer in 8-bit binary.

11110001 ✔

What is the value of (e)?
Give the answer in 8-bit binary.

01111000 ✔

Submit You have used 1 of 2 attempts