



on the Extended Assembler

Instructions: For each question, choose the single best answer. Make your choice by clicking on its button. You can change your answers at any time. When the quiz is graded, the correct answers will appear in the box after each question.

1. Register \$8 is the first register conventionally used to hold temporary values. What is its **mnemonic** name?

- ☐ A. \$temp
- ☒ B. \$t0
- ☐ C. \$t1
- ☐ D. \$t8

2. What is the **mnemonic** name of register \$0?

- ☐ A. zero
- ☒ B. \$zero
- ☐ C. \$z0
- ☐ D. \$t0

3. Does the extended assembler translate assembly language into machine instructions not available to the basic assembler?

- ☒ A. No. Extended assembly language is just an alternate syntax used to specify the same machine instructions.
- ☐ B. No. The extended assembler uses many fewer of the actual machine instructions.
- ☐ C. Yes. The extended assembler outputs instructions for the extended part of the processor.
- ☐ D. Yes. The extended assembler is the only way to ask for floating-point operations.

4. What is true just after the return from a call to a subroutine?

- ☐ A. The **temporary** registers are the same as they were before the call, and the **saved** registers may have been altered.
- ☐ B. The **saved** registers are the same as they were before the call, and the **temporary** registers have certainly been altered.
- ☐ C. Values in the **saved** registers are safely stored in memory, but values in the **temporary** registers have not been saved.
- ☒ D. The **saved** registers are the same as they were before the call, and the **temporary** registers may have been altered.

D

5. What is the most fundamental part of an operating system?

- ☐ A. The shell.
- ☐ B. The peel.
- ☒ C. The kernel.
- ☐ D. The seed.

C

6. Translate the following pseudoinstruction into basic assembly: `move $t8,$t3`

- ☐ A. `addu $t3,$t8,$t3`
- ☐ B. `ori $t8,$0,$t3`
- ☐ C. `ori $t8,$t3`
- ☒ D. `addu $t8,$0,$t3`

D

7. Here is the load immediate pseudoinstruction: `li d,value`. What is true of `value`?

- ☐ A. It may be any integer, positive or negative, that fits into 16 bits.
- ☒ B. It may be any integer, positive or negative, that fits into 32 bits.
- ☐ C. It may be any positive integer that fits into 32 bits.
- ☐ D. It may be any positive integer that fits into 16 bits.

B

8. How is the `li d,value` translated by the extended assembler?

- ☐ A. It is always translated into the `addiu` basic instruction.
- ☐ B. It is always translated into the one basic instruction.
- ☒ C. How it is translated depends on the size and sign of the `value`.

- ☐ D. It is always translated into two basic instructions.

9. Inspect the following code:

```
        .data
numa:   .word 23
numb:   .word 99
numc:   .word -12
```

Which instruction puts the **address** of the word that contains 99 into register \$s3?

- ☒ A. `la $s3,numb`
☐ B. `lw $s3,numb`
☐ C. `lw $s3,99`
☐ D. `la $s3,4(numa)`

10. Inspect the following code (the same as above):

```
        .data
numa:   .word 23
numb:   .word 99
numc:   .word -12
```

Which instruction stores the **contents** of register \$s3 into memory at numc ?

- ☐ A. `sa $s3,numc`
☒ B. `sw $s3,numc`
☐ C. `sw numc,$s3`
☐ D. `move $s3,numc`

grade quiz

The number you got right:

Percent Correct:

Letter Grade:



If you have returned here from another page, or have re-loaded this page, you will need to click again on each of your choices for the grading program to work correctly. You may want to press the SHIFT KEY while clicking to clear the old answers.