

1. What is an input file for a linker?  
Choose all correct answers.

- A. source
- B. executable
- C. object
- D. assembly language
- E. library

2. Which of the following MIPS commands will always cause your program to continue its execution at an address defined by a label?

- A. jp
- B. jal
- C. \$ra
- D. jr

3. The MIPS ISA is considered to be...

- A. ROFL
- B. RDFM
- C. RISC
- D. RAND

4. The MIPS **ori** instruction does a bitwise logical OR operation. What will the \$t4 register contain after the following two commands execute?

```
li $t0, 14
ori $t4, $t0, 15
```

- A. 15
- B. 14
- C. 29
- D. same value as in \$t0

5. To increase the size of a stack frame in a MIPS program...

- A. increase the address value in \$sp
- B. decrease the address value in \$sp
- C. allocate stack space in the .data segment
- D. call the push command

6. Which statement below is **false**?

- A. MIPS jump commands are macros.
- B. MIPS jump commands are not macros.
- C. j is not a MIPS command.
- D. A MIPS program cannot jump to the 'main:' label.

7. The MIPS program counter is the register \$pc. What does the \$pc register contain after the following instruction?

**jr \$ra**

- A. The value in \$ra plus 1
- B. The value in \$ra plus 4
- C. The value in \$ra
- D. The value in \$ra minus 4

8. The \$t0 register is also register \$8. Which temporary register can also be addressed as register \$13?

9. If a MIPS function makes changes to any of the 'saved' registers (\$s0 through \$s7), the function has a responsibility. What is the function's responsibility?

- A. store the \$s register values to other registers.
- B. clear the \$s registers.
- C. save and restore the \$s registers using the stack.
- D. do not change the \$s register values.

10. What is the two's complement of the following number? Show in binary or hex. There are 4 possible correct answers. For extra credit, show all 4.

**0x0E65**

(extra)

11. What is the minimum number of bits needed to store a correct answer for question #10 above?