Results

Morgan Bergen — 2nd Attempt

100%

12
Out of 12 points

10:17
Time for this attempt

3 attempts left Take Now

Attempt History

Your Answers:

1 1 / 1 point

In the first lab you performed a ``native compilation" of the C program

- True
- ✓ False

2 1 / 1 point

Match the various integrated circuits with appropriate types

Power management circuits	Analog
Microprocessor	Digital
operational amplifiers (op-amps)	Analog
FPGA	Digital
SRAM	Digital

3 1 / 1 point

What is the content in memory address 104 after executing the following code?
All numbers are decimal. x0 contains 0.

```
addi x1, x0, 100
ori x2, x0, 50
sw x2, 4(x1)
```

- 0
- 100
- 104
- ✓ 50

4 1 / 1 point

Arrange the following functionalities in a vehicle based on their computing resource requirement (starting with lower requirement at the top)

Lowest Requirement

- ✓ Anti-lock brake system
- ✓ In-vehicle audio/video entertainment
- ✓ Blind spot monitoring
- ✓ Lane keeping assistance
- ✓ Self-driving

Highest Requirement

5 1 / 1 point

What information should be included in Instruction Set Architecture (ISA) ?

- ✓ ☑ Opcodes and operands of the CPU
- ☐ interconnections of functional units inside CPU
- ✓ ☑ All information required to write assembly programs for the CPU
- ✓ ☑ Register names of the CPU
- ☐ Microarchitecture of the CPU

6 1 / 1 point

Which of the following occurs during preprocessing step in a compiler toolchain

- ☐ Generation of the assembly program
- ☐ Linking of the machine code
- ✓ ☑ Expansion of the included files
- ✓ ☑ Removal of Comments

7 1 / 1 point

Which of the followings can be used measure instruction execution rate

- ✓ ☑ DMIPS
- ☐ ms
- ☐ mW
- ✓ ☑ MIPS

8 1 / 1 point

Which of the followings are examples of attacks on confidentiality (in computing system)

- ☐ Causing a voltage glitch to corrupt the output of the chip
- ✓ ☑ observing the power consumption of the chip to guess the password
- ☐ mod chip attack on gaming console to bypass restrictions
- ✓ ☑ a hidden malicious circuit inside the chip passing secret information to an outsider

9 1 / 1 point

• What is the value stored in register x2 after all lines are executed.
All numbers are decimal (assume x1=200, x2=300)

```
Add x3, x1, x2
Sub x2, x3, x2
```

- ✓ 200
- 300
- 100
- 600

10 1 / 1 point

Which functionality cannot be provided by the Apple A9 system-on-chip (SoC) inside iPhone

- Graphics processing
- Data storage
- ✓ Sensing
- General computation

11 1 / 1 point

Match the various electronic system with appropriate features

End-user programmable	General Computing Systems
Limited Application	Embedded Systems
Lots of power, memory, & compute resource	General Computing Systems
Often requires real-time operation	Embedded Systems

12 1 / 1 point

A given ISA could be implemented with different microarchitectures

- False
- ✓ True