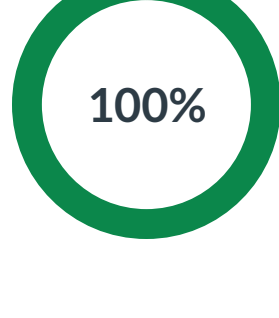


# Results

Morgan Bergen — 2nd Attempt



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