Quiz 3

Due Jan 24 at 11:59pm **Points** 12 **Questions** 9 **Available** Jan 12 at 12am - Jan 26 at 11:59pm **Time Limit** None

Instructions

Read Sections 3.1-3.3 then answer the following questions. One try. No time limit

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	1,547 minutes	12 out of 12

Score for this quiz: **12** out of 12
Submitted Jan 24 at 7:46pm
This attempt took 1,547 minutes.

Question 1 **1 / 1 pts**

If a conditional branch is not taken, the instruction that follows the branch instruction is executed.

Correct!

- (•) True
- ( ) False

Question 2 **1 / 1 pts**

On the 8051, what is the maximum number of iterations that the DJNZ instruction can accomplish? (Hint, the register must initially be set to 0.)

Correct!

256

Correct Answers 256 (with margin: 0)

Question 3 **1 / 1 pts**

How many bytes are used for the LJMP instruction?

Correct!

3

Correct Answers 3 (with margin: 0)

Question 4 **1 / 1 pts**

How many bytes are used for the SJMP instruction?

Correct!

2

Correct Answers 2 (with margin: 0)

Question 5 **1 / 1 pts**

The target of a short jump instruction must be within...

- ( ) -127 to 128 bytes of the instruction following the jump
- ( ) -127 to 128 bytes of the jump instruction
- ( ) -128 to 127 bytes of the jump instruction

Correct!

- (•) -128 to 127 bytes of the instruction following the jump

Question 6

2 / 2 pts

Which of the following instructions are short jumps (i.e. limited to 256 bytes in the neighborhood of the PC)?

- [ ] LJMP
- [x] JC — Correct!
- [ ] LCALL
- [x] DJNZ — Correct!
- [x] JNZ — Correct!

Question 7

1 / 1 pts

Find the number of times the loop is performed? (i,e, how many times is the instruction "djnz R5,loop1" executed?)

```
        mov     R6.#20
loop2:  mov     R5,#100
loop1:  djnz    R5,loop1
        djnz    R6,loop2
```

Correct! 2,000

Correct Answers 2,000 (with margin: 0)

Question 8

2 / 2 pts

Referring to Question 7, find the machine code for the statements mov R6,#20 and mov R5,#100. Give your answer in hexadecimal starting with the instruction byte. Do not add leading zeros or the 'H' suffix. (Hint 1: consult page 617. Hint 2: as an example, the machine code for mov R3,#200 would be 7BC8.)

machine code for mov R6,#20: 7E14

machine code for mov R5,#100: 7D64

Answer 1:

Correct! 7E14

Answer 2:

Correct! 7D64

Question 9

2 / 2 pts

Without knowing where the code from Question 7 is located in memory, find the machine code for the statements djnz R5,loop1 and djnz R6,loop2. (Hint1: consult page 618. Hint 2: the second byte of the first instruction is FE.) Give your answer in hexadecimal starting with the instruction byte. Do not add leading zeros or the 'H' suffix.

machine code for djnz R5,loop1: DDFE

machine code for djnz R6,loop2: DEFA

Answer 1:

Correct! DDFE

Answer 2:

Correct! DEFA

Quiz Score: **12** out of 12