

Quiz 7 Results for Jacob Watts

Score for this quiz: **20** out of 20

Submitted Feb 7 at 3:20pm

This attempt took 3,004 minutes.

Question 1

3 / 3 pts

State what (8051) C data type would be best suited for the following variables (e.g. signed int, unsigned char, array of char, float, bit, etc.). Use the smallest suitable data type.

Correct!

The number of people on a bus (never negative)

unsigned char



Correct!

The battery voltage (accurate to 0.01V)

float



Correct!

The number of people on a jumbo jet (never negative)

unsigned int



Correct!

A welcome message for an electronic moving sign

array of char



Correct!

Your score in a pinochle game (1500 points to win) (can be negative)

signed int



Correct!

The temperature in Fahrenheit (to the nearest degree) in Boise

signed char



Other Incorrect Match Options:

- array of int

Question 2

4 / 4 pts

Find the value sent to the port for each of the following statements. Give your answer in hexadecimal with no leading 0x, no leading zeros and no 'H' suffix.

(a) P1 = 0x34; // P1 is assigned

34

(b) P1 = 34; // P1 is assigned

22

(c) P1 = 'A'; // P1 is assigned

41

(d) P1 = -34; // P1 is assigned

DE

Answer 1:

34

Correct!

Answer 2:

22

Correct!

Answer 3:

41

Correct!

Answer 4:

DE

Correct!

Question 3

1 / 1 pts

What (8051 C) data type would you use to declare a 1-bit variable that references one bit in a special function register (SFR)?

sbit

Correct!

Question 4

1 / 1 pts

What does the following declaration do?

```
sfr foo = 0x81;
```

Correct!

- ☒ Creates an alias to SFR 81H
- ☐ Allocates a byte in memory that refers to SFR 81H
- ☐ It will not compile. The declaration is invalid
- ☐ Allocates a SFR and initializes it to 81H

Question 5

4 / 4 pts

Find the contents of the port after each of the following operations. Give your answers in hexadecimal with no leading 0x, no leading zeros and no 'H' suffix.

P1 = 0x56 & 0x97; // P1 is assigned to

P1 = 0x58 | 0x94; // P1 is assigned to

P1 = 0xf0 ^ 0x5c; // P1 is assigned to

P1 = 0xC7 & ~0x01; // P1 is assigned to

Answer 1:

Correct!

16

Answer 2:

Correct!

DC

Answer 3:

Correct!

AC

Answer 4:

Correct!

C6

Question 6

4 / 4 pts

Find the contents of the port after each of the following operations. Give your answers in hexadecimal with no leading 0x, no leading zeros and no 'H' suffix. Hint 1: these are shift, not rotate operations. Hint 2: C interprets all numeric constants (e.g. 0xC7) as integers, not chars.

P1 = 0x56 >> 2; // P1 is assigned to

15

P1 = 0x95 << 2; // P1 is assigned to

54

P1 = 0xf0 >> 3; // P1 is assigned to

1E

P1 = 0xC7 << 3; // P1 is assigned to

38

Answer 1:

Correct!

15

Answer 2:

Correct!

54

Answer 3:

Correct!

1E

Correct!

Answer 4:

38

Question 7

3 / 3 pts

In which memory space would you store the following:

Correct!

A 1500-byte network packet

External RAM



Correct!

The pixel pattern for each character in a font.

Code ROM



Correct!

Your score in a video game

Data RAM



Other Incorrect Match Options:

- Special Function Register

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