MM Quiz 1

Due Sep 14 at 10pm	**Points** 10	**Questions** 8	
Available Sep 14 at 9am - Sep 14 at 10pm	about 13 hours	**Time Limit** 40 Minutes	

Instructions

This is your mid-module quiz. Unlike the old quiz you did for homework, it is not collaborative. Once you start the quiz you will have a limited amount of time to complete it.

Be careful with formatting. If I specify a formatting method and you do not follow it, you will lose some credit.

The quiz is open notes. You may use your own notes and any of the resources on the course webpages. You are not allowed to use the internet for any other purpose unless a question directs you to do so.

On the day of the quiz, do not use any public forum to ask any quiz-related questions. Once you see the quiz, do not discuss it with anyone until the quiz closes for everyone.

Good luck!

This quiz was locked Sep 14 at 10pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	40 minutes	8.67 out of 10

ⓘ Correct answers are hidden.

Score for this quiz: **8.67** out of 10
Submitted Sep 14 at 8:40pm
This attempt took 40 minutes.

Question 1	**0.5 / 0.5 pts**
Let's say that p is a pointer to memory and the next six bytes in memory	

(in hex) beginning at p's address are: aa bb cc dd ee ff. What value would be in x if the following code is run on a big-endian computer?

```
uint16_t *q = (uint16_t *)p;
uint16_t x = q[0];
```

- ○ aa
- ◉ aabb
- ○ bbaa
- ○ aabbccdd
- ○ ddccbbaa

Question 2

0.5 / 0.5 pts

Let's say that p is a pointer to memory and the next six bytes in memory (in hex) beginning at p's address are: aa bb cc dd ee ff. What value would be in x if the following code is run on a little-endian computer?

```
uint16_t *q = (uint16_t *)p;
uint16_t x = q[0];
```

- ○ aa
- ○ aabb
- ◉ bbaa
- ○ aabbccdd
- ○ ddccbbaa

Question 3

1 / 1 pts

Let's say that p is a pointer to memory and the next six bytes in memory (in hex) beginning at p's address are: aa bb cc dd ee ff. What value would be in x if the following code is run on a little-endian computer?

```
uint16_t *q = (uint16_t *)p;
uint16_t x = q[1];
```

Input your answer as exactly 4 lower-case letters with no additional characters (so like aabb and not like 0xaabb).

ddcc

Question 4

4 / 4 pts

What are the values of w, x, y, and z after the following code snippet? Input your answers as exactly 8 binary digits with no additional characters (so like 00001111 and not like 0b00001111 or 0x0F).

```
uint8_t a = 0b00001111;  // Assigns 00001111 to a
uint8_t b = 0b10101010;  // Assigns 10101010 to b
uint8_t w = a ^ b;
uint8_t x = a | b;
uint8_t y = a & b;
uint8_t z = (a << 4) | (b >> 4);
```

w: 10100101

x: 10101111

y: 00001010

z: 11111010

Answer 1:

10100101

Answer 2:

10101111

Answer 3:

00001010

Answer 4:

11111010

Partial

Question 5

0.67 / 1 pts

Select the statement(s) below that are always true.

- [x] The domain and codomain of an invertible function are the same.
- [x] The domain and codomain of an permutation function are the same.
- [x] If a function is onto, then its range and codomain are the same.
- [ ] If a function is one-to-one, then its range and codomain are the same.
- [x] Every permutation function is invertible.
- [ ] Every invertible function is a permutation.

Question 6

1 / 1 pts

Let f : $Z_5 \rightarrow Z_5$ be a random permutation function. What is the probability that f(0) = 0? Express your answer as a reduced fraction without any spaces (eg, 1/10 and not 2/20 or 0.1), or as 0 or 1, if appropriate.

1/5

Question 7

1 / 1 pts

Let f : $Z_5 \rightarrow Z_5$ be a random permutation function. What is Pr[f(1) = 1 | f(0) = 0]? Express your answer as a reduced fraction without any spaces (eg, 1/10 and not 2/20 or 0.1), or as 0 or 1, if appropriate.

1/4

Incorrect

Question 8

0 / 1 pts

Let f : $Z_5 \rightarrow Z_5$ be a random permutation function. What is the probability that f(0) = 0 and f(1) = 1? Express your answer as a reduced fraction without any spaces (eg, 1/10 and not 2/20 or 0.1), or as 0 or 1, if appropriate.

2/5

Quiz Score: **8.67** out of 10