

Name:

NetID:

You have 10 minutes to complete this quiz. You may not use a computer to answer the questions.

1. In a step-by-step fashion, describe how an assignment statement of the form *variable_name* = *expression* is executed.

[Ans] We execute an assignment statement in a right-to-left fashion. First we evaluate *expression*; the value yielded by this evaluation is then stored in *variable_name*.

Note: Many people misinterpreted the word “execute” and talked about how one would go about coding the above assignment statement in Matlab (for example, type it into the Command window and hit enter). This is *not* what the question was asking — we are interested in the *semantics* of the assignment statement. What is the mechanism by which a variable obtains a value?

2. What is the value of the variables *x* and *y* after we execute the following sequence of statements?

```
x = 4
y = x / 4
x = y * 2
x = x ^ 2
```

[Ans] $x = 4$ and $y = 1$

3. Evaluate the following conditional statements:

(a) $\sim('A' == 'a')$

[Ans] Since the characters 'A' and 'a' have different ASCII codes, the expression $('A' == 'a')$ evaluates to false (0). Therefore, $\sim('A' == 'a')$ evaluates to true (1).

(b) $((1 > 0) \& (\text{sqrt}(4) \sim= 2)) \mid (5 \geq 5)$

[Ans] Since $(5 \geq 5)$ evaluates to true, the entire expression evaluates to true as well (1).