

Quiz 1

CS 241—Data Structures—Fritz Ruehr

Name: _____

1. True or false: a Java variable may be declared with an *interface* for its type: _____

2. A Java interface is a collection of:
 - (a) classes, abstract classes and other interfaces
 - (b) method *signatures* (i.e., methods without bodies)
 - (c) method *zombies* (i.e., methods without heads)
 - (d) statements and expressions_____

3. What is the base-10 logarithm of a number n , *approximately*, given its representation as a base-10 numeral?

4. If we multiply a number by 100, what happens to its base 10 logarithm? (I.e., if the base 10 logarithm of x is y , what is the base 10 logarithm of $100x$?)

5. If you play “guess my number”, and I respond each time with “too high”, “too low” or “you win!”, *about* how many guesses should you require if my number is between 1 and 1,000 (one thousand)? (*You should play the smart way, starting in the middle!*)

6. Write down the letters for *all* of the following that are true in Java:
 - (a) one interface may extend another interface
 - (b) an interface may implement a class
 - (c) a class may implement an interface
 - (d) one class may extend another class_____