Example Questions

Quiz 1
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Sample Quiz 1 - Friday

This is a sample of the kinds of questions you can expect Friday. Try the quiz closed book and then check your answers against the key.

1. Determine the order of each of the following growth functions. (2 points each)
   (a) $10n^5 + 100n^3 + 1000$
   (b) $2^n + 100n^3$
   (c) $n^2 \log_2 n$

2. Which of the previous functions will eventually grow fastest? (2 points each)

3. Determine the growth function and the order of the following code fragment: (5 points)

   ```
   n=10
   sum=0
   for i = 1 to n
     {j = i
     while j less than n
       { sum +=j
         j++
     }
   }
   ```

4. Define: primitive data type

5. Define: abstract data type
6. Briefly (two or three sentences) describe the relationship between a class and an object.

7. We discussed three logical types of lists (not Java implementations of lists). Name them.
   (a)
   (b)
   (c)

8. Pick one of the three ways we learned to create lists in Java. Give at least one advantage and at least one disadvantage of the way you picked.

9. **Extra Credit:** In java, all objects inherit properties and/or methods from a single object. What is the name of that object?