Review Questions 08

Topic: Abstract Data Types

1. The three aspects of a data type are _____ , _____, and_____ .

2. A new data type in Java is introduced by the _____.

3. When operation '+' is applied to strings, it denotes _____.

4. Well-structured software is composed of modules that are _____to one another.

5. What are the outcome and basic requirements for designing an ADT?

6. Given the following ADT (a Sequence interface), classify the operations into accessor and transformer, respectively.

```
public interface Sequential
{ public void append(Object object);
  // adds the given object to end of this sequence
  public int count(Object object);
  // returns the number of occurrences of the
  // given object that are in this sequence
  public Object get(int index);
  // returns the object at the given index,
  // or null if it is not in this sequence
  public int getLength();
  // returns the number of elements in this sequence
  public int indexOf(Object object);
  // returns the number of elements that come before
  // the first occurrence of the given object in this
  // sequence,or -1 if the given object is not in this
  // sequence
  public Object remove(int index);
  // removes and returns the object at the given index,
  // or returns null if index >= length;
  public boolean remove(Object object);
  // removes the first occurrence of the object;
  // returns true iff successful;
  public Object set(int index, Object object);
  // returns the object at the given index after
  // replacing it with the given object, or null is
  // unsuccessful
}
```