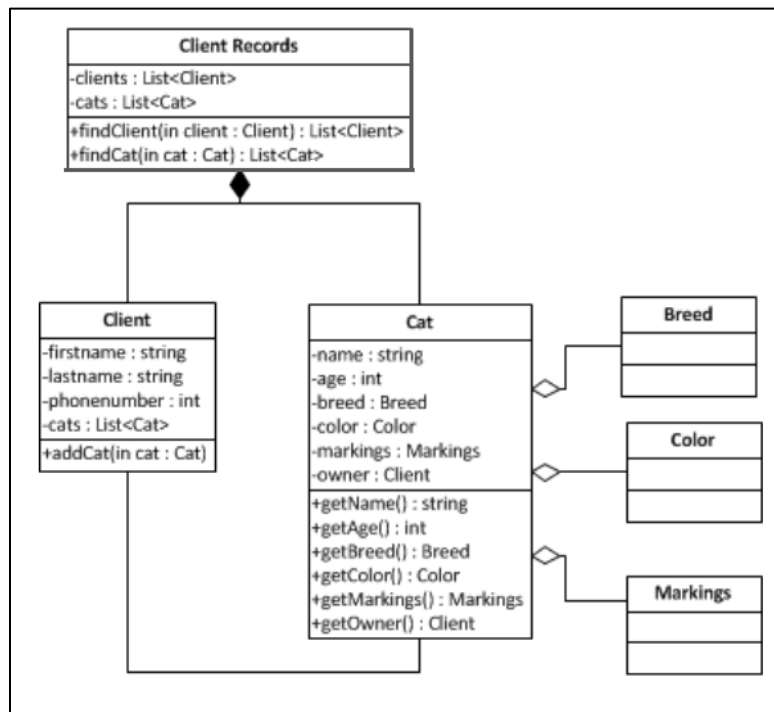**Sample problems for CS380 Exam #2**

1.) Have a look at the below UML diagram.

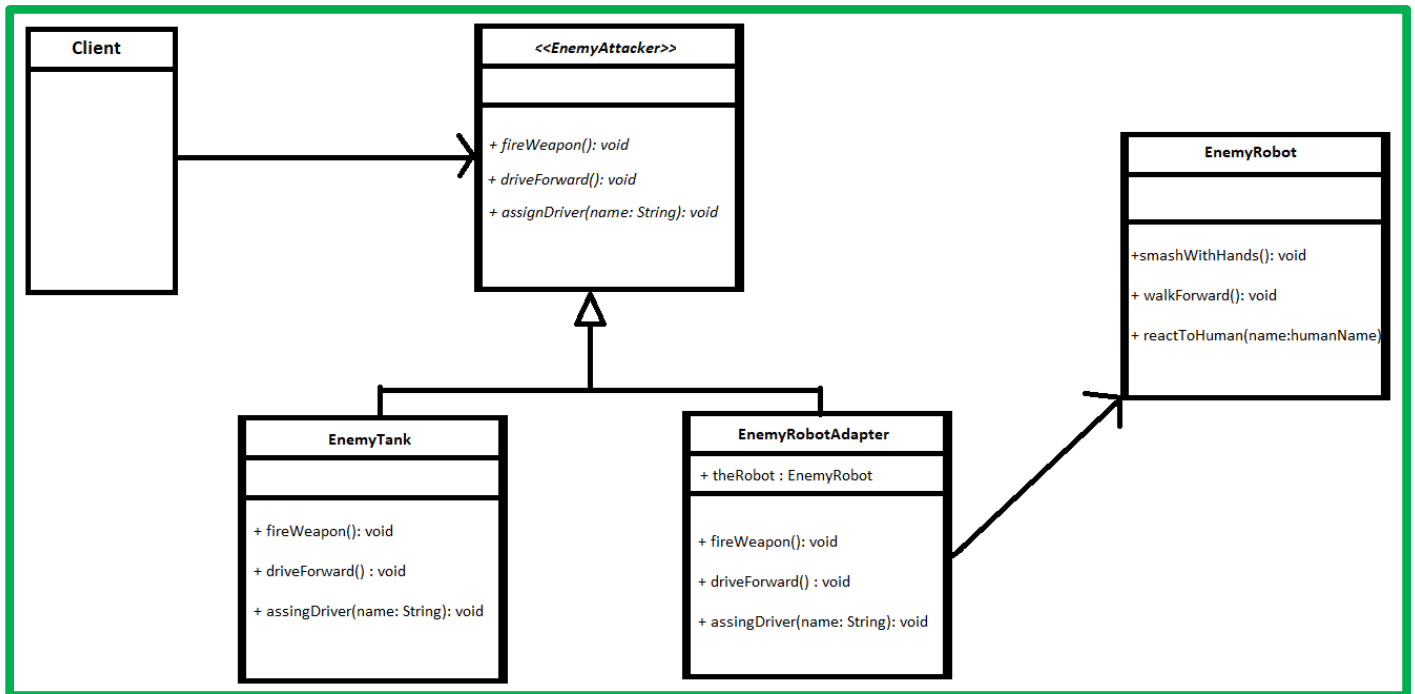**a.)** What is the relationship between Client Records, Client, and Cat?

The relationship between Client Records, Client and Cat is known as Composition. It shows part of a relationship. Client Records has Cats and Clients.

b.) What is the relationship between Cat and Markings?

The relationship between Cat and Markings is aggregation. In the below example Markings object can exist without the Cats object.

2.) Provide an example of the Adapter Pattern using a UML diagram.

3.) What is the Open/Closed principle?

OCP states that classes should be open to extension and closed to modification. This is done by abstracting what is common and encapsulating what is different.

4.) What is a documentation fault?

Documentation fault is when the documentation does not match what the software actually does. This is usually a result of when the documentation is written to the spec, not the actual implementation.

5.) What is Alpha testing?

Alpha testing is the testing of the application within the company where it is developed. It is done before letting the customer do the tests on a stable version.

6.) Write a syntactically correct JUnit test for the below code. Don't worry about the imports.

```java
public class SimpleMethods {

    public int sqaure(int num) {
        return num*num;
    }

}
```

```java
@Test
public void test1() {
    SimpleMethods x = new SimpleMethods();
    int result = x.sqaure(2);
    assertEquals(4, result);
}
```