

Part a) Write the code that declares a variable whose name is `group` and whose type is a `java.util.Collection`. This collection will contain `Fish` objects.

Part b) Write the code that creates a new instance of a `java.util.LinkedList` and assigns it to the variable `group` you declared in the previous part.

Part c) Write the code that adds a new `Koi` to `group`.

Part d)

Write the code that iterates over a collection of `Bucket` objects and calls the method `dumpContents()` on each of them.

Use the following for-each loop definition to answer parts a – b.

```
for(Element e: _collection) {  
    e.setSize(utilities.Random.randomInteger(100, 500));  
}
```

Part e) Circle and identify with the letter e the part of this loop that is considered the loop body?

Part f) Circle and identify with the letter f the part of this loop that refers to the collection that you are iterating over.

Part g) What is the purpose of `Element e` in the loop?

Part h) Suppose that there is a class `Dog` defined with a method named `fetchBall()` that causes the Dog to go out and fetch a ball. You have been assigned the task of creating a `JButton` for a program that when clicked will ask the dog to fetch a ball. You have been able to finish all but the action listener class so far. For this question, fill in the code for the action listener class so that the button will turn a flower to red when clicked upon.

```
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class FetchButtonListener implements ActionListener {

    public FetchButtonListener(                ) {

    }

    public void actionPerformed(ActionEvent arg0) {

    }

}
```

Part i) Fill in the code for the method `swapLocations` so that the result will be the swapping of the locations of the two graphics passed in as parameters.

```
public void swapLocations(IGraphic graphic1, IGraphic graphic2) {

}

}
```

Part j) Suppose there are classes `Foo`, `Bar`, and `Cat` defined with the following constructors. The details of the constructors' bodies are not relevant to the question.

```
public Foo (A aInstance) {}
public Bar (B bInstance) {}
public Cat (C cInstance) {}
```

Fill in the () in the code below where we are creating new instances of `Foo`, `Bar`, and `Cat` with the appropriate arguments.

```
public class B {
    private C _c;

    public B() {
        _c = new C();
        this.method();
    }

    public void method() {

        new Foo(                );

        new Bar(                 );

        new Cat(                  );
    }
}
```