

CSC 130 | Fall 2017 | Sample Quiz Questions

Find the error

Starting with the next page you will see a sequence of problems that appear very similar. On the left will be an implementation of a `Pizza` class. There will be an error in some section of code.

Without comparing the pages to each other, take 3 steps in each **individual** page:

1. identify the error (circle the bad code)
2. explain the error (why is the code bad)
3. suggest new code that fixes the error

Note that in some cases the “error” consists of code that is syntactically correct but is poorly designed or produces a result that does not make any sense given the context of the problem.

```
import java.util.ArrayList;
public class Pizza {

    private ArrayList<String> toppings;
    private int diameter; // in inches

    public Pizza() {
        toppings = new ArrayList<String>();
        diameter = 0;
    }

    public Pizza(int size) {
        toppings = new ArrayList<String>();
        diameter = size;
    }

    public void add(String topping) {
        topping = topping.toLowerCase();
        toppings.add(topping);
    }

    public void remove(String topping) {
        for (int i=toppings.size()-1 ; i>=0; i--) {
            String t = toppings.get(i);
            if (t.equals(topping)) {
                toppings.remove(i);
            }
        }
    }

    public ArrayList<String> getToppings() {
        return toppings;
    }

    public boolean hasTopping(String topping) {
        for (String t : toppings) {
            if (t.equals(topping)) {
                return true;
            }
        }
        return false;
    }

    public void setSize(int newSize) {
        diameter = newSize;
    }

    public int getSize() {
        return diameter;
    }

    public int getSizeCentimeters() {
        diameter = (int)(diameter * 2.54);
        return diameter;
    }
}
```

```
import java.util.ArrayList;
public class Pizza {

    private ArrayList<String> toppings;
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    public Pizza() {
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    public void setSize(int newSize) {
        diameter = newSize;
    }

    public int getSize() {
        return diameter;
    }

    public double getSizeCentimeters() {
        double cm = diameter * 2.54;
        return cm;
    }
}
```

```
import java.util.ArrayList;
public class Pizza {

    private ArrayList<String> toppings;
    private int diameter; // in inches

    public Pizza() {
        toppings = "";
        diameter = 0;
    }

    public Pizza(String foods) {
        toppings = foods;
        diameter = 0;
    }

    public void add(String topping) {
        topping = topping.toLowerCase();
        toppings.add(topping);
    }

    public void remove(String topping) {
        for (int i=toppings.size()-1 ; i>-1; i--) {
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    public void setSize(int newSize) {
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    public void setSize(int diameter) {
        diameter = diameter;
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    }

    public double getSizeCentimeters() {
        double cm = diameter * 2.54;
        return cm;
    }
}
```

```
import java.util.ArrayList;
public class Pizza {

    private ArrayList<String> toppings;
    private int diameter; // in inches

    public void Pizza() {
        toppings = new ArrayList<String>();
        diameter = 0;
    }

    public void Pizza(int size) {
        toppings = new ArrayList<String>();
        diameter = size;
    }

    public void add(String topping) {
        topping = topping.toLowerCase();
        toppings.add(topping);
    }

    public void remove(String topping) {
        for (int i=toppings.size()-1 ; i>=0; i--) {
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    public int setSize(int newSize) {
        diameter = newSize;
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            String t = toppings.get(i);
            if (t.equals(topping)) {
                toppings.remove(i);
            }
        }
    }

    public String getToppings() {
        return toppings;
    }

    public boolean hasTopping(String topping) {
        for (String t : toppings) {
            if (t.equals(topping)) {
                return true;
            }
        }
        return false;
    }

    public void setSize(int newSize) {
        diameter = newSize;
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    public int getSize() {
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    public double getSizeCentimeters() {
        double cm = diameter * 2.54;
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}
```

```
import java.util.ArrayList;
public class Pizza {

    ArrayList<String> toppings;
    int diameter; // in inches

    public Pizza() {
        toppings = new ArrayList<String>();
        diameter = 0;
    }

    public Pizza(int size) {
        toppings = new ArrayList<String>();
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    public void add(String topping) {
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            if (t.equals(topping)) {
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            }
        }
        return false;
    }

    public void setSize(int newSize) {
        diameter = newSize;
    }

    public int getSize() {
        return toppings.size();
    }

    public double getSizeCentimeters() {
        double cm = diameter * 2.54;
        return cm;
    }
}
```

```
import java.util.ArrayList;
public class Pizza {

    private ArrayList<String> toppings;
    private int diameter; // in inches

    public new Pizza() {
        toppings = new ArrayList<String>();
        diameter = 0;
    }

    public new Pizza(int size) {
        toppings = new ArrayList<String>();
        diameter = size;
    }

    public void add(String topping) {
        topping = topping.toLowerCase();
        toppings.add(topping);
    }

    public void remove(String topping) {
        for (int i=toppings.size()-1 ; i>-1; i--) {
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        return false;
    }

    public void setSize(int newSize) {
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    }

    public int getSize() {
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    public double getSizeCentimeters() {
        double cm = diameter * 2.54;
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    }
}
```

This is a correctly implemented class with no errors.

```
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public class Pizza {

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