

1 Confusing Constructors

What is the output of the following program after we execute the main method?

```
public class Confusing {
    private Confusing(Object o) {
        System.out.println("Data Structures");
    }
    private Confusing(double[] dArray) {
        System.out.println("Algorithms");
    }
    public static void main(String[] args) {
        int[] array = new int[4];
        IntList list = IntList.list(array);
        Confusing Antares = new Confusing(array);
        Confusing Christine = new Confusing(list);
        Nicolas = new Confusing(null);
    }
}
```

2 The ABCs of OOP

Indicate what each line the main program in class **D** would print, if the line prints anything. If any lines error out, identify the errors as compile-time or runtime errors and cross out the corresponding lines.

```
public class A {
    public void x() { System.out.println("Ax"); }
    public void y(A z) { System.out.println("Ay"); }
}

public class B extends A {
    public void y() { System.out.println("By"); }
    public void y(B z) { System.out.println("Byz"); }
}

public class C extends A {
    public void x() { System.out.println("Cx"); }
}

public class D {
    public static void main(String[] args) {
        A e = new B();
        A f = new C();
        B g = new A();
        B h = new C();
        C i = (C) new A();
        B j = (A) new C();
        B k = (B) e;

        f.x();
        e.x();
        e.y();
        (B) e.y();
        ((B) e).y();
        e.y(e);
        e.y(f);
    }
}
```

3 Fix this Waffle Code

Given the following interface and classes, fill in the blanks below so that the code compiles.

```
public interface Edible {
    void eat();
}

public abstract class Food _____ {
    public abstract void cook();
}

public class Pancake extends _____ {
    public void eat() {
        System.out.println("Pancake");
    }

    public _____ {
        System.out.println("Made Pancake!");
    }
}

public class Waffle implements Edible {

    public _____ {
        System.out.println("Waffle");
    }

    public static void main(String[] args) {}
        _____ arr = new _____[2];
        arr[0] = new Pancake();
        arr[1] = new Waffle();
    }
}
```