1.

Relevant java files in Q1 folder. (The output for the real Driver2.java maybe slightly different. All instances of `MyException` should be replaced with
`java.lang.ArithmeticException: / by zero`
Output:

```
other :-(
java.lang.ArithmeticException: / by zero
in MyEx ctor
in Kinga ctor
Kinga :-(
in Kinga print
in MyEx print
Kinga hard kinga also a waste
in MyEx ctor
MyEx :-(
java.lang.ArithmeticException: / by zero
Div: 1
great success
java.lang.ArithmeticException: / by zero
```

2.

1) What is wrong with the following class declaration?

```
public class Exam extends Questionaire, Test implements Comparable
```

Ans: You cannot extend two classes at the same time.
Why: Java doesn't allow multiple inheritance. You can implement as many as your heart desires, but you can only inherit once.

2) Assume class A has the following attribute declarations:

```
private static String name;
public static int course;
private String model;
public String age;
```

a) Lower in the file in class A has the following method:

```
public void foo(){
    System.out.println(name);
}
```
What is wrong with the method above?

Ans: Nothing is wrong.
Why: Static variables can be accessed by both static and non-static methods. As long as the method is within the same class as name, whether or not name is private or public has no significant relevance.

b) Lower in the file in class A has the following method:

```
public static void bar(){
    System.out.println(model);
}
```
What is wrong with the method above?

Ans: A static method cannot access a non-static attribute.
Why: A static method wouldn't know whose value to draw upon, as non-static attributes belong to objects and static methods are simply like functions with scope limited to other static variables, the parameters passed in, and the code block within

the method.

3) If I have a statement in a method in a class other than Exam2, what has to be true about the following line:

```
System.out.println(Exam2.foo);
```

Ans: foo must be public and static.
Why: foo is being accessed directly from a class name, so it indicates that it was created as a static attribute. However, for this value to be accessed without a getter, you would have to set the visibility to public.

4) If I have a statement in a class other than Exam2, what has to be true about the following line:
```
System.out.println(Exam2.func());
```

Ans: func must be public and static.
Why: In order for func to be directly accessible, it must be public. To be accessible from the class itself and not restricted to an object, it must be static. Static methods do not need an object to be created to for usage. (Imagine "import math" in python, and then doing "math.sqrt(9)". It's like that.)

5) If I have the following statements in a method in a class other than Exam2, what has to be true about the following lines:
```
Exam2 ex = new Exam2();
System.out.println(ex.foo);
```

Ans: foo must be a non-private attribute.
Why: foo doesn't have to be static, because accessing foo from an object and from a class would yield the same result. It merely needs to exist and be a public attribute.

6) If I have the following statements in a method in a class other than Exam2, what has to be true about the following lines:
```
Exam2 ex = new Exam2();
```

Ans: I'm unsure here. By definition, Exam2 cannot be abstract.
Why: It is possible to get objects from an abstract class. However, it isn't possible to get it via constructor. Child classes are irrelevant.

7) If I have an interface that has one method, foo, declared inside of it, and a class called Exam2 implements that interface, which of the following must be true under all circumstances:

Ans: If Exam2 is abstract, it doesn't need to provide a body for foo. This detail will be implemented when another class inherits from Exam2. However, if Exam2 is not abstract, foo must have a body.
Why: Topkek.

8) If I have the following statement in my main method, what must be true:
```
Scanner scan = new Scanner(new File(args[0].substring(0, 3));
```

Ans: While both are types of exceptions are possible, it is more a checked exception and thus should be held within a try-catch block.

Why: It is possible for an unchecked exception to occur on the line and a checked exception. .substring() can throw IndexOutOfBounds, which is a subclass of RuntimeException (an unchecked exception). Scanner can throw FileNotFoundException, which is a subclass of Exception (a checked exception).

3.
1.
".*abc+(d|e)*e?[1-9]\\d"

abc11	Yes
aabcce11	Yes
aabccde11	Yes
aabccde11	Yes
qbcddde20	No
abc00	No
abce23	Yes
abcde34	Yes
.abc12	Yes
\abcce10	Yes

Extra Credit: Name one thing you like about this course and one thing you don't like about the course.

Be professional but honest, okay? When you answer this question, please be professional but honest.