

[**Closed book and notes.**] Show all of your work clearly in the space provided or on the additional page at the end of the exam. Be sure to **read each problem carefully**. Note that the exam is double sided. Due to time constraints, you are not required to document your source code.

**1.** (15 points) Consider the following code:

```
String in = JOptionPane.showInputDialog( null , "Enter␣stuff" );
try {
    if( in.length() > 0 && in!=null ) {
        System.out.println( "Stuff!" );
        System.out.println( Integer.parseInt( in ) );
    } else {
        System.out.println( "Where's␣my␣stuff?" );
    }
} catch( NullPointerException e ) {
    System.out.println( "null's␣make␣me␣sad" );
} catch( NumberFormatException e ) {
    System.out.println( "Hint:␣integers␣are␣stuff" );
} finally {
    System.out.println( "Finally" );
}
System.out.println( "Done" );
```

Determine the output if the user:

**(a)** enters 8 and clicks “OK”

**(b)** enters friendly and clicks “OK”

**(c)** clicks “Cancel”

**2.**

**(a)** (10 points) Create a customized class, `ExamException`, that can be thrown by the following command:

```
throw new ExamException("Question is too hard");
```

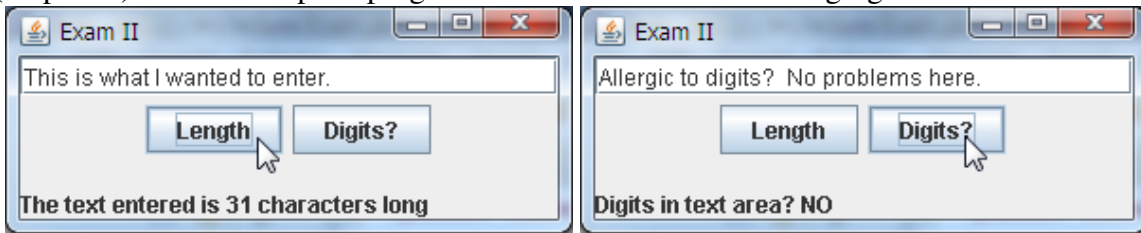
**(b)** (5 points) Is `ExamException` a checked or unchecked exception? Justify your answer.

3. (10 points) What are two ways to determine the source of an event while in the method called when an event occurs?

4. (5 points) Give two examples (class names) of sources of events.

5. (10 points) Suppose `ActionListener` was defined as an abstract class instead of an interface. How would this change the way event handling is implemented?

6. (45 points) Write a complete program that looks like the following figures:



The window, titled “Exam II,” is 300 pixels wide and 120 pixel high. When the “Length” button is clicked the label at the bottom is changed to: “The text entered is XX characters long” where XX is the actual number of characters in the text field at the top. When the “Digits?” button is clicked the label at the bottom is changed to: “Digits in text area? NO” if no digits are present in the text field or “Digits in text area? YES” if at least one digit is present in the text. You do not need to include `import` statements or document your code. Place your answer on the back of this page and additional pages, if needed.



Place answer to **6.** here:



Additional work area for any problem. Clearly identify to which problem the work on this page is related.