

Review session: exceptions and GUIs

(0) Consider the following methods:

`runEverything(...)`: creates a GUI that responds to user requests. Calls `processInput`.

`processInput(...)`: gets and processes entire input from the user. Calls `calcAllInfo`

`preprocessAllInfo(...)`: collates info about result of preprocessing each piece of user input. Calls `processFirstBit(...)`.

`processFirstBit(...)`: preprocesses the first bit of user input.

We consider what (should) happen if `processFirstBit` throws an Exception.

(1) (From Spring 2010's final) We have forgotten how to find the length of a string `s`, and we are in a hurry. We do remember that `s.charAt(k)` throws a `StringIndexOutOfBoundsException` if `k` is not the index of a character `s`. So we (meaning you) write the function below, using a loop (with initialization) that successively evaluates `s.charAt(0)`, `s.charAt(1)`, `s.charAt(2)`, ... until the exception is thrown, at which time `k` will be the length! Write the body of the function. You will need a try-statement.

```
/** = length of string s */  
public static int length(String s) {
```

```
}
```

(2) How were the 3 steps for getting something to listen to an event actually implemented in the `acm` package we used for A7? (Remember we said that these things were done "under the hood".)