

Review Sheet for Exam 2

Exceptions

- creating your own subclasses of Exception
- knowing some built in subclasses
 - NumberFormatException (thrown from parseInt, parseDouble)
 - IndexOutOfBoundsException (thrown when user goes out of bounds in an array)
 - IllegalArgumentException (thrown when a parameter doesn't make sense)
- how to catch multiple types of Exceptions in one try-catch block

Interfaces

- what is an interface?
- how to define your own interface
- how to create a class that implements an interface
- what the keyword "implements" does
- what it means to have an interface on the left-hand side
of an assignment statement

Inheritance

- difference between upcasting and downcasting
- why upcasting doesn't need an explicit cast
- why downcasting does need an explicit cast.

- what happens when one class inherits from another class.
 - What variables do you have access to?
 - What methods do you have access to?
- What the access specifier “protected” does and why it is useful.
- What the keyword “extends” does.
- What the keyword super is
- How can you call your superclass’s constructor?

- method overriding
 - what does method overriding do?
 - when is method overriding necessary?
- Abstract classes
 - what is an abstract class?
 - what is an abstract method
 - what must be done to be able to create variables of an abstract class type.
 -

Polymorphism

- what is it?
- why is it useful?
- to predict the output of a polymorphic method
- What dynamic method lookup is and why it is useful.

ArrayLists

- to understand get(), set(), add(), and size().

-- to write a method that operates on ArrayList

--to understand how we implemented our own on a basic level

GUI

-- how to create windows (JFrames) and how to create subclasses of JFrame

-- what layouts are and how to change the layout

-- BorderLayout (default to JFrame)

-- FlowLayout (default to JPanel)

--GridLayout

-- what are the default layouts for JFrame and JPanel?

- JButtons

- How to create and initialize a JButton

- How to add an ActionListener to the JButton

- How to implement the ActionListener interface to respond to button clicks

- JRadioButtons

- same as above

- how to create a ButtonGroup to ensure that only one radio button can be selected at any one time

- JTextField

- How to create and initialize a JTextField

- How to retrieve the text from a text field

- How to programmatically edit the text in a text field

- how to change whether or not editing a text field is allowed.

- JLabel

- How to create and initialize a JLabel

