Eric Roberts
CS 106A

Handout #4
January 4, 2010

CS 106A Calendar

Monday	Wednesday	Friday
January 4 Administration CS and the Honor Code Meet Karel the Robot	6 Simple Karel programs Extending the `Karel` class The concept of inheritance Control structures in Karel **Read: Karel, Chapters 1-3**	8 Problem-solving in Karel Program decomposition The idea of an algorithm **Read: Karel, Chapters 4-6**
11 Programming by example Classes and objects The `Program` hierarchy Simple graphical objects **Read: Java, Chapter 1**	13 Variables and values Arithmetic expressions Common idioms **Read: Chapters 2 and 3** **Due: HW #1 (Karel)**	15 Control statements Boolean data Simple animations **Read: Chapter 4**
18 Martin Luther King, Jr. Day Optional film: Dr. King's 1963 speech "I Have A Dream"	20 Methods The role of parameters **Read: Chapter 5** **Due: Karel contest**	22 Pseudorandom numbers The `RandomGenerator` class Reading `javadoc` **Read: Sections 6.1-6.2** **Due: HW #2 (Simple Java)**
25 Objects and classes Constructors Inheritance **Read: Sections 6.3-6.6**	27 The `acm.graphics` package The collage graphics model Responding to mouse events The Java listener model **Read: Sections 9.1-9.3** **Sections 10.1-10.3**	29 Graphical structures The `GPolygon` class Creating compound objects **Read: Section 9.4** **Due: Problem Set #1**
February 1 Character data Using Java's `String` class **Read: Sections 8.1-8.4**	3 String manipulation Problem-solving with strings **Read: Section 8.5** **Due: HW #3 (Breakout)**	5 Data representation Objects and memory **Read: Chapter 7**

Monday	Wednesday	Friday
February 8 Debugging strategies **Due: Graphics contest**	10 Arrays in Java Midterm Exam Tuesday, February 9 3:15 or 7:00 P.M. **Read: Sections 11.1-11.5**	12 More on arrays Multidimensional arrays The `ArrayList` class **Read: Sections 11.6, 11.8**
15 Presidents' Day (no class)	17 Pixel arrays Image manipulation **Read: Section 11.7**	19 Sorting and searching Algorithmic analysis File I/O **Read: Chapter 12** **Due: HW #4 (Yahtzee)**
22 Swing interactors The `JComponent` hierarchy Action listeners **Read: Sections 10.5-10.6**	24 Java collection classes The `HashMap` class Iterators Object-oriented design **Read: Chapter 13**	26 Large-scale data structures Data-driven programs **Due: Problem Set #2**
March 1 Overview of Adventure! **Read: Adventure handout** **Due: HW #5 (FacePamphlet)**	3 The `acm.gui` package The `TableLayout` class Designing GUIs **Read: Sections 10.7-10.8**	5 Programming in the large Software engineering Programming patterns
8 Frontiers of computing (optional)	10 No class during Dead Week	12 Review Session Sunday, March 14 7:00–9:00 P.M. **Due: HW #6 (Adventure)**

Alternate Final
Monday, March 15
12:15–3:15 P.M.

Scheduled Final
Friday, March 19
12:15–3:15 P.M.