

Course Review

16 April 2007

CMPT167

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Course Overview

- Ch4, 5, 6: **if/switch, for/while**
- Ch7: **Arrays**, sorting
- Ch6: **Methods, Applets**
- Ch3, 8, 9: Subclasses, **inheritance**
- Ch8: **Packages**, access modifiers
- Ch11: **Swing**
- Ch14: File **I/O**
- Ch24: TCP/UDP **client/server**
- Ch23: **Multithreading**

Java Introduction

- JRE/JDK, bytecode, steps of compilation/running
 - Class files, naming conventions, writing a complete “Hello World!” program
 - Comments and doc-comments
- UML diagrams: class, use-case
- Java primitive types, operator precedence
- if/else construct, switch
- for construct, while, do/while, break/continue
- Arrays: declare/allocate/initialize
 - Sorting: bubble sort, selection sort

Object-oriented concepts

- Subclasses, instances, attributes
 - “is a”, “is a kind of”, “has a”
 - Abstract and concrete classes
 - Constructors and subclasses
 - Downcasting
- set/get methods
- Interfaces
- Scope vs. duration
- Packages, private/(none)/protected/public
- final: variables, methods, classes

Swing

- Command–line vs. **AWT** vs. **Swing**
- Idioms for **Swing** programs (e.g., FractalTree):
 - **main()**, **createAndShowGUI()**, **constructor**
- **Event** handling: **delegation** model
 - **Inner** classes
 - **Interfaces** and classes
- **Widgets**: buttons, textboxes, dialogs

Miscellaneous topics

■ File I/O

- Text-based vs. byte-based vs. object-based
- Input vs. output streams, vs. random-access

■ Networking

- TCP vs. UDP, packets, sockets
- Making clients, servers

■ Multithreading

- Runnable interface
- Executors, task schedulers

TODO

- Final exam is Fri 20Apr 2–4pm