CSSE 220 Day 22

Exam 2 Review
File I/O, Exceptions
Vector Graphics Project

Check out *FilesAndExceptions* from SVN

Questions?

Today

- Exam 2 review
- File I/O and Exceptions
- Vector Graphics project kickoff

Exam 2 Review

» Exam is in class tomorrow …

Exam Coming!

- Test on Tuesday
  - In-class exam
  - Meet in your usual room at time indicated on the schedule
- Topics from Chapters 1-14
- Will include:
  - An open computer exam with:
    - A paper part: short answer, fill-in-the-blank, trace-code-by-hand, draw box-and-pointer diagrams, find-errors-in-code, write short chunks of code, etc
    - A programming part: a few small programs, unit tests provided for some of them, you write unit tests for others
- Review in class today
  - What questions did you bring?
  - What topics would you like to review?
  - I didn't prepare anything but I'm happy to cover whatever you want, including working examples

Have you done these?

- Reviewed chapters 1 to 14 from Big Java
- Prepared a sheet of notes to help you summarize what you consider important
- Reviewed the slides, in-class quizzes, homework from sessions 1 to 21
- Practiced programming, unit testing, documenting your code, & using the Java API
- You can ask questions by email to the csse220-staff mailing list or your instructor

Files and Exceptions

>> Reading & writing files
When the unexpected happens

Review of Anonymous Classes

▸ Look at GameOfLifeWithIO
  ◦ GameOfLife constructor has 2 listeners, one *local inner* class and one *local anonymous* class
  ◦ ButtonPanel constructor has 3 listeners which are *local anonymous* classes

▸ Feel free to use as examples for your project

File I/O: Key Pieces

▸ Input: **File** and **Scanner**

▸ Output: **PrintWriter** and **println**

▸ Be kind to your OS: **close()** all files

▸ Letting users choose: **JFileChooser** and **File**

▸ Expect the unexpected: **Exception** handling

▸ Refer to examples when you need to…

Q1–Q4

Exceptions

- Used to signal that something went wrong:
  - **throw new EOFException("Missing column");**

- Can be **caught** by **exception handler**
  - Recovers from error
  - Or exits gracefully

Q5

A Checkered Past

▸ Java has two sorts of exceptions

▸ **Checked exceptions**: compiler checks that calling code isn't ignoring the problem
  ◦ Used for **expected** problems

▸ **Unchecked exceptions**: compiler lets us ignore these if we want
  ◦ Used for **fatal** or **avoidable** problems
  ◦ Are subclasses of RunTimeException or Error

Q6-Q7

A Tale of Two Choices

▸ Dealing with checked exceptions

  ◦ Can **propagate** the exception
    • Just declare that our method will pass any exceptions along
    • **public void loadGameState() throws IOException**
    • Used when our code isn't able to rectify the problem

  ◦ Can **handle** the exception
    • Used when our code can rectify the problem

Q8

Handling Exceptions

- Use try-catch statement:
  - **try {**
    // potentially "exceptional" code
    } catch (*ExceptionType var*) {
    // handle exception
    }
- Related, try-finally for clean up:
  - **try {**
    // code that requires "clean up"
    } finally {
    // runs even if exception occurred
    }

> Can repeat this part for as many different exception types as you need.

Vector Graphics Assignment

>> A team project to create a scalable graphics program.

Vector Graphics Teams – Clifton

n	Team	n	Team
11	agnerrl,bristokb,zellneaj	15	goodca,savrdada,schuenjr
12	bippuskw,modenejm,ryanam	16	harrisse,maglioms,trederdj
13	brooksma,dohertjp,tugayac	17	kleinnj,veatchje,westeras
14	czaplikg,mayhewrb, mouldema,priceha	18	petitjam,pohltm,wagnerrj

Team number used in repository name:
http://svn.csse.rose-hulman.edu/repos/csse220-201120-vg-teamXX

Check out *VectorGraphics* from SVN

Vector Graphics Teams - Defoe

n	Team	n	Team
21	abdelroh,drakecb,grovema, raonn	25	lockeat,mccammjr,jacobyam, trammjn
22	chappljd,zhangr1,handokkr	26	kaiserkp,schepedw,deperarc
23	coblebj,chenaurj,whiteaj	27	meyerrd,hippstn,redelmrw, sheltotj
24	galvezdm,oelschmm,carrila	28	moyessa,scolarrf,crouchjt

Team number used in repository name:
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Teaming

- A team assignment
  - So **some division of labor is appropriate** (indeed, necessary)

- A learning experience, so:
  - Rule 1: *every* **team member must participate in** *every* **major activity**.
  - Rule 2: **Everything that you submit for this project should be understood by** *all* **team members**.
    - Not necessarily all the details, but all the basic ideas

Work time now

- Read the specification
- Exchange contact info – you may want to add to your planning folder.
- Start working on your milestone 0 **due tomorrow**
  - Try to get it done in class today so you can:
    - Get some feedback in class before it's graded.
    - Focus on studying for the exam tonight.

Plan, then do

- **If you complete these, show me:**
  - CRC cards
  - UML – as complete as you can – will help coding later.
  - User stories for cycle 1

- **Ask questions as needed!**

- **Work on the rest, cycle one due Thursday.**
  - There's a quick partner eval
    - At end of project
  - If you are done, you have my blessing to start coding cycle 1
  - Use any reasonable combination of:
    - group meetings and/or
    - dividing up the work