CSE 121 – Lesson 10

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Music: 🌸k-pop girlies playlist🌸

sli.do #cse121

Announcements, Reminders

- Creative Project 2 due yesterday

- Programming Assignment 2 out today, due next Tuesday 11:59 PM

- Resub 3 due tomorrow 11:59 PM

- Quiz 1 (Take-home): Hope it went well!

- **Reminder:** Final exam August 8/16 4:30 – 6:30 PM in PAA A102

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(PCM) Scanner & File for File I/O

File is defined in the `java.io` package

`import java.io.*;`

```
File newFile = new File("newFile.txt");
Scanner fileScan = new Scanner(newFile);
```

Scanner Methods	Description
`nextInt()`	Reads the next token from the user as an `int` and returns it
`nextDouble()`	Reads the next token from the user as a `double` and returns it
`next()`	Reads the next token from the user as a `String` and returns it
`nextLine()`	Reads an *entire line* from the user as a `String` and returns it
`hasNextInt()`	Returns `true` if the next token can be read as an `int`, `false` otherwise
`hasNextDouble()`	Returns `true` if the next token can be read as a `double`, `false` otherwise
`hasNext()`	Returns `true` if there is another token of input to be read in, `false` otherwise
`hasNextLine()`	Returns `true` if there is another line of input to be read in, `false` otherwise

(PCM) Checked Exceptions

If you try to compile a program working with file scanners, you may encounter this error message:

```
error: unreported exception FileNotFoundException; must be
caught or declared to be thrown
```

To resolve this, you need to be `throws FileNotFoundException` at the end of the header of any method containing file scanner creation code, or any method that calls that method!

This is like signing a waiver and telling Java – "Hey, I hereby promise to not get mad at you when you bug out and crash my program if I give you a file that doesn't actually exist."

(PCM) Typical Line-Processing Pattern

```java
while (fileScan.hasNextLine()) {
    String line = fileScan.nextLine();
    // do something with line
}
```

(PCM) Typical Token-Processing Pattern

```
while (fileScan.hasNext__()) {
    __ nextToken = fileScan.next__();
    // do something line nextToken
}
```

(PCM) Typical Hybrid Pattern

```java
while (fileScan.hasNextLine()) {
    String line = fileScan.nextLine();
    Scanner lineScan = new Scanner(line);
    while (lineScan.hasNext__()) {
        __ nextToken = lineScan.next__();
        // do something with nextToken
    }
}
```