CSE 121 – Lesson 4

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Autumn 2023

Music: 121 23au Lecture Tunes 🐐

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Announcements, Reminders

• C1 releasing later today (due Tues, Oct 17)
• Feedback for Creative Project 0 released yesterday
  • Use the Grade Checker tool to track your grades!
• Quiz 0: Thursday, October 19 during section.
  • Bring device to take quiz on! (e.g., laptop, surface)
• Resubmission form for R0 releasing tomorrow (due Thurs, Oct 19)
• Remember – IPL is in person! (For async help, use the message board)
• Final Exam has been scheduled: Wednesday, Dec 13 12:30 – 2:20pm
• Code Quality Guide updated!
Resubmissions

In general, you may revise and resubmit a given Programming Assignment or Creative Project each week based on the feedback you receive with no penalty. The grade of your resubmission will completely replace your previous grades for that assignment.

Logistics:
• One resubmission per week
  • An assignment is only eligible for resubmission the 3 cycles after its feedback is posted
• There are 8 resubmission cycles this quarter (all listed on the course calendar)
• To use a resubmission, you will need to:
  • Set the submission you want to be graded as "Final"
  • Fill out a form listing some information (Name, assignment, what you changed, etc.)
Last Time...

- Variables
  - Container that stores a specific data type
  - Must declare & initialize!
  - Manipulate, modify, reuse ♻

- Strings
  - Sequence of characters treated as one, yet can be indexed as individual parts
  - char, represents a single character

```plaintext
int version = 5;
```

```plaintext
\begin{tabular}{ccccccc}
  g & u & m & b & a & l & l \\
  0 & 1 & 2 & 3 & 4 & 5 & 6
\end{tabular}
```
We also started to think about *debugging* with the last activity in class on Friday (BuggyMadLibs.java)

Bugs happen – debugging is a natural part of programming!

Ways to approach debugging?
(PCM) for loops!

For loops are our first control structure
A syntactic structure that controls the execution of other statements.

```
for ( initialization ; test ; update ) {
  body (statements to be repeated)
}
```
(PCM) for loops!

```java
for (int counter = 1; counter <= 5; counter++) {
    System.out.println("I love CSE 121!");
}
```
(PCM) for loops!

1. Perform the initialization once at the beginning.

2. Is the test true?
   - NO: Execute the statements that are immediately after the for loop body.
   - YES: Execute the statements inside the for loop body.

3. Perform the update.

4.  

5.  

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What output does the following code produce?

```java
for (int i = 1; i <= 6; i++) {
    System.out.println(i + " squared = " + i * i);
}
```

A. i squared = i*i  
   i squared = i*i  
   i squared = i*i  
   i squared = i*i  
   i squared = i*i  
   i squared = i*i  

B. i squared = i * i  
   i squared = i * i  
   i squared = i * i  
   i squared = i * i  
   i squared = i * i  
   i squared = i * i  

C. 1 squared = 1  
    2 squared = 4  
    3 squared = 9  
    4 squared = 16  
    5 squared = 25  
    6 squared = 36  

D. 1 squared = 11  
    2 squared = 22  
    3 squared = 33  
    4 squared = 44  
    5 squared = 55  
    6 squared = 66  
    7 squared = 77  

Poll in with your answer!
(PCM) String traversals

// For some String s
for (int i = 0; i < s.length(); i++) {
    // do something with s.charAt(i)
}

Fencepost Pattern

Some task where one piece is repeated $n$ times, and another piece is repeated $n-1$ times and they alternate

g-u-m-b-a-1-1
Fencepost Pattern

Some task where one piece is repeated \( n \) times, and another piece is repeated \( n-1 \) times and they alternate.

\[
g-u-m-b-a-l-l-l
\]