Announcements, Reminders

- Creative Project 1 releasing later today
  - Due Tuesday, April 18
- Feedback for Creative Project 0 released tomorrow
- Quiz 0: Thursday, April 20 during section.
  - Bring device to take quiz on! (e.g., laptop, surface)
- Resubmission form for R0 releasing tomorrow
  - due Thursday April 20
Resubmissions

In general, you may revise 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
• There are 8 resubmission cycles this quarter (all listed on the course calendar)
• To use a resubmission, you will need to fill out a form listing some information
  • Name, assignment, which submission, 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

// declare AND initialize
int version = 5;

```c
#include <stdio.h>

int main() {
    char version = 5;
    printf("version = %d\n", version);
    return 0;
}
```
Debugging

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.

```plaintext
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.

Lesson 4 - Spring 2023
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  

(PCM) String traversals

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

// For some String s
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
Fencepost Pattern

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