Announcements

- HW 5 solutions posted online
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Iteration

- While loops
  ```java
  while (boolean expression)
  {
    ... 
  }
  ```

- For loops
  - With previously defined iterator variable
    ```java
    for ( i = 0; i < n; i++ )
    {
      ... 
    }
    ```
  - Iterator variable defined (and exists!) only in loop
    ```java
    for ( int i = 0; i < n; i++ )
    {
      ... 
    } 
    System.out.print(i); // illegal
    break; // get out of loop
    continue; // skip to next iteration of loop
  ```

- Should be able to parse the first Java program given now
Useful java functions

```java
s.charAt(i) // returns character at i-th index
s.substring(start,stop) // substring from index start to stop-1
s = “ABCDEFG”;
s.substring(2,5) // is “CDE”
s.length() // Note the parenthesis ()
s.substring(1,s.length()) // all but first char
s.substring(0,s.length()-1) // all but last char

What does this do?
while (s.charAt(0) == “ “)
    s = s.substring(1,s.length());
```

More type casting: int and char

- Suppose `c` is a char
  - `(int)c` is integer representation
    - `(int)’a’` is 97
    - `(int)’0’` is 48
    - `(int)’Z’` is 90
    - `(int)’A’` is 65

- Suppose `x` in an int
  - `(char)x` is the corresponding (represented) character
    - `(char)97` is ‘a’
    - `(char)32` is ‘ ‘
    - `(char)36` is ‘$’
    - `(char)65` is ‘A’

- If `d` is a character ‘0’ - ’9’
  - What is: `(int)d - (int)’0’`?
  - If `a` is a character storing a lower-case alphabet (‘a’ … ‘z’)
    - `(int)a - (int)’a’ + 1`