

# Variables, Operators, and Input

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CSE 114 INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING



# Announcements

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# Announcements (cont.)

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Topics in today's lecture:

- Variables
- Data types
- Operators
- Keyboard input (Scanner)

Reading assignment for this lecture: Chapters 2 and 3 of Downey (Think Java)

# Topics

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Program structure: See [program\\_structure\\_1.txt](#)

Variables and types: see [Var.java](#)

Basic data types in Java: see [Types.java](#)

Dealing with integers and real numbers: see [MixedTypes.java](#)

Basic operators: see [Operators.java](#)

To read input from keyboard

- see [Read.java](#)
- The “read-compute-print” or “input-compute-output” mode of computing

Packages: see [Read.java](#)

# Topics

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- See [Fahr1.java](#)
- See [Fahr2.java](#)

# Formatting output

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Use the printf statement.

```
System.out.printf(format, items);
```

Where format is a string that may consist of substrings and format specifiers.

A *format specifier* specifies how an item should be displayed.

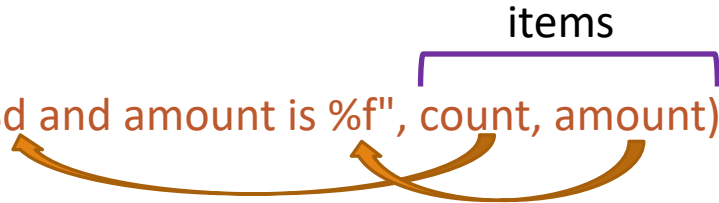
An item may be a numeric value, character, boolean value, or a string.

Each specifier begins with a percent sign (%).

# Frequently-used specifiers

Specifier	Output	Example
%b	a boolean value	<i>true</i> or <i>false</i>
%c	a character	'a'
%d	a decimal integer	200
%f	a floating-point number	45.460000
%e	a number in standard scientific notation	4.556000e+01
%s	a string	"Java is cool"

```
int count = 5;  
double amount = 45.56;  
System.out.printf("count is %d and amount is %f", count, amount);
```



display count is 5 and amount is 45.560000

```
System.out.printf("%.1f", amount);    // This forces only 1 number past the decimal point , returning 45.6
```