

CSE 142 Summer 2001

Simple Input and Output

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Input & Output

- Most interesting programs perform both *input* and *output*.
 - Think about a video game with no display, or no joystick.
 - Or an ATM that doesn't let you enter your PIN!
- Output can go to a variety of places:
 - the screen, speakers, disk, network, printer...
- Input can come from a variety of places:
 - the mouse, keyboard, disk, network...
- We know how to do some output (painting shapes), but what about input or other kinds of output?

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Input: A Simple Interface

- Here's a very simple interface for doing input:

```
// Prompt the user with the given prompt, read and
// return an integer. If they don't provide an
// integer, repeat until they do.

int readInt(String prompt);
```
- You can imagine a similar interface for reading other simple values:

```
String readString(String prompt);
double readDouble(String prompt);
char readChar(String prompt);
```

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Input: An Example

- An example interaction with the interpreter:

```
java> Input in = new Input();
java> int width = in.readInt("What is the width of the box?");
What is the width of the box?
8
java> int height = in.readInt("What is the height?");
What is the height?
hello
Not a valid integer, please try again.
4
java> height * width
32
```
- Also works in BlueJ, using a separate *console window*

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Output: System.out

- Java provides an object, `System.out`, which has methods to print to the console window
- Operations

```
System.out.println( expression ); // print expression, then advance to next line
System.out.print( expression ); // print expression without terminating
// the current line
```
- Expression can be int, double, char, boolean, String, others
 - (We'll see how to print any object later)
- Several calls of the print method can be used to print multiple values on one line

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