Name: _____

Session: AM / PM
Circle one

Chapter 2 - Day 1

Writing Your First Java Program

PROGRAM STRUCTURE

Key vocabulary: class, main method, comment, brace, statement

```
1 //This is a simple Java program.
2 public class Simple
3 {
4     public static void main(String[] args)
5     {
6         System.out.println("Programming is great fun!");
7     }
8 }
```

Label the following above: the comment, class header, method header, and output statement.
Connect each pair of matching braces.

The filename for this public class must be _____.

A method is a named block of _____ that perform a job.

The class is the outer container. The _____ method contains the initial instructions.

A comment begins with _____. The compiler _____ comments.

Braces mark the _____ and _____ of a body.

A statement gives an instruction. All statements must end with a _____.

Class headers, method headers, and braces do not need a _____.

WHEN A PROGRAM WILL NOT COMPILE

Write below what the first steps you should take are

_____

_____

_____

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Console output and escape sequences

Term	Definition / memory cue
API	
Argument	
String Literal	

Java's API provides prewritten tools. System.out is the standard output stream used by these console examples. An argument is a value inside a method call's parentheses.

Method	What happens after the value prints
`System.out.print(...)`	
`System.out.println(...)`	

A string literal uses _____ quotes. Java prints spaces only when we include them in the text or produce them with an escape sequence.

Code inside a string	Meaning
`\n`	
`\t`	
`\"`	
`\\`	

Tab width depends on the console. A tab is not just a fixed number of spaces.

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Variables and string concatenation

```
1 int value;
2 value = 5;
3 System.out.println("Value is " + value);
```

A variable is a named _____ location.

The declaration states the variable's _____ and _____.

Assignment uses _____. The value on the right goes into the variable on the left.

A literal is a value written directly in code. In this example, the numeric literal is _____. Declaration and initialization can happen together:

```
1   int value = 5;
```

You must give a local variable a _____ before using it in output.

TEXT AND VARIABLE NAMES

Concatenation joins values into a string using the _____ operator.

Statement	Output
`System.out.println("Value is " + value);`	_____
`System.out.println("value");`	_____
`System.out.println("5" + 5);`	_____

Quotes tell Java to use literal text. A variable name outside quotes uses its stored value.

IDENTIFIER NAMING RULES

Names are case-sensitive: daysWorked and DaysWorked are _____ identifiers.

Use a descriptive name that starts lowercase. Join later words with capitals: cargoWeight.

Legal or illegal? Circle one. If illegal, write a better name.

2ndPlayer Legal / Illegal Why / Better name: _____

playerScore Legal / Illegal Why / Better name: _____

class Legal / Illegal Why / Better name: _____

Identifiers Can Start With	Identifiers Can Contain

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Choosing data types

A variable's type determines the values it can hold and the operations Java allows. Start with what the data means and how the program will use it.

Family	Java types	What to remember.
Whole numbers		
Decimal numbers		
True or false		
Single character		

Java has _____ primitive types. String is a _____ type for text, rather than a primitive type.

DECISIONS THAT MATTER

A code such as "0042" may look numeric, but its leading zeros are part of the identifier. Use String when you need to preserve that text.

Choose a type for the values that could occur, not just the value you happen to see today. A measurement recorded as 20.0 today may be 20.5 tomorrow.

Keep the Choosing Data Types handout with these notes. Its reference page includes examples of all eight primitives and String.

PUTTING THE PIECES TOGETHER

```
1 String robotName = "Pip";
2 int batteryCount = 2;
3 double batteryVoltage = 3.7;
4 char bay = 'D';
5 boolean ready = true;
6 System.out.println("Robot: " + robotName);
7 System.out.println("Voltage: " + batteryVoltage + " V");
```

Line 6 Prints: _____

Line 7 Prints: _____