

CS62: Fall 2025 | Intro to Java Cheatsheet

Variables

- Variables are named in camelCase (if multiple words, words 2+ are capitalized, but the starting word is always lowercase; e.g., firstName).
- Variables cannot start with special characters (0-9, _, \$, etc.)
- The following cannot be variable names:

Reserved Words				
abstract	default	goto	package	synchronized
assert	do	if	private	this
boolean	double	implements	protected	throw
break	else	import	public	throws
byte	enum	instanceof	return	transient
case	extends	int	short	true
catch	false	interface	static	try
char	final	long	strictfp	void
class	finally	native	super	volatile
const	float	new	switch	while
continue	for	null		

Types

- The 8 primitive types in Java are byte, short, int, long, float, double, boolean, char. booleans are true and false (lowercase).
- For boolean logic, “and” is && and “or” is ||.
- Character strings are not primitive data types but are supported through the java.lang.String class. Note that String is capitalized.
- We enclose strings in double quotes. For example:
 - String name = "Jingyi";
- Note that single quotes are reserved for the char data type.
 - char firstLetter = 'J';
- Methods need a return type and typed input parameters. If it doesn't return anything (e.g. just prints), the return type is void.

Printing

- Use System.out.println() to print. It can take as input a string, a variable, or a combination of both with +. It will automatically cast integers into Strings. E.g.,
 - int age = 30;
 - System.out.println("Hi, I'm " + age + " years old");
- Comments in Java are // for single line or /* comment */ for multi line.

Loops

The syntax for a for loop is

<i>Python</i> for x in range(5): print(x)	<i>Java</i> for (int x = 0; x < 5; x++) { System.out.println(x); }
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The syntax for a while loop is

<i>Python</i> x = 0 while x < 5: print(x)	<i>Java</i> int x = 0; while (x < 5) { System.out.println(x); }
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Classes

- Classes should list instance variables with their types immediately under the public class Classname declaration.

```
public class PomonaStudent {  
    // variables  
    String name;  
    String email;  
    int id;  
    ...  
}
```

- Constructors must use the name of the class. They can have any number of arguments. The “this” keyword is necessary when the input parameter variable and the instance variable have the same name.

```
public PomonaStudent() {  
}  
  
public PomonaStudent(String studentName, String email, int id){  
    name = studentName;  
    this.email = email;  
    this.id = id;  
}
```

- Creating a new object (for instance, in main) requires the “new” keyword to call a constructor.

```
PomonaStudent student1 = new PomonaStudent(); //default constructor  
PomonaStudent student2 = new PomonaStudent("Ravi Kumar",  
"rkjc2023@mypomona.edu", 1234); //constructor with 3 args
```