Name:_____   **Partner:** _____
Python Activity 62: Java – Conditionals

Java is *programming language* that shares some commonalities with Python.
Examing *control structures* such as conditionals in Java and Python help delineate which concepts we've learned are specific to Python, and which are more general to computer science and computational thinking!

Learning Objectives
Students will be able to:
Content:
- Predict what Java code with **Booleans** and **Conditionals** will do
- Describe the differences in syntax between Python & Java *if, if-else if-else,* and *if-else*
Process:
- Write Java code equivalents of Python code using **Booleans** and **Conditionals**
Prior Knowledge
- Python concepts: Python, Java data types

Critical Thinking Questions:

BOOLEAN

1.   Match the Python code on the left with what you think is the Java equivalent on the right:

`bool`	`Boolean` (or the primitive `boolean`)
`True`	`Boolean flag = true;`
`False`	`&&`
`flag = True`	`||`
`and`	`>`
`or`	`<=`
`not`	`==`
`>`	`true`
`<=`	`false`
`==`	`!`

CONDITIONALS

2.   The table below shows the Python and Java versions of an *if statement*:
       Circle where the *Java conditional syntax* differs from the Python conditional syntax.

If Conditionals:: Python (left), Java (right)	
| ```python
a = 1
b = 2
if a < b:
    print("a < b")
``` | ```java
int a = 1;
int b = 2;
if (a < b) {
    System.out.println("a < b");
}
``` |

3. The table below shows the Python and Java versions of an *if-else statement*:
Circle where the *Java conditional syntax* differs from the Python conditional syntax.

If-else Conditionals:: Python (left), Java (right)	
| ```python
a = 1
b = 2
if a > b:
    print("a >= b")
else:
    print("a < b")
``` | ```java
int a = 1;
int b = 2;
if (a > b) {
    System.out.println("a >= b");
} else {
    System.out.println("a < b");
}
``` |

4. The table below shows the Python and Java versions of an *if- else if - else statement*:
Circle where the *Java conditional syntax* differs from the Python conditional syntax.

If-else if-else Conditionals:: Python (left), Java (right)	
| ```python
a = 1
b = 2
c = 3
if a > b and a > c:
    print("a is largest")
elif b > a and b > c:
    print("b is largest")
else:
    print("c is largest")
``` | ```java
int a = 1;
int b = 2;
int c = 3;
if (a > b && a > c) {
    System.out.println("a is largest");
} else if (b > a && b > c) {
    System.out.println("b is largest");
} else {
    System.out.println("c is largest");
}
``` |

How does the *syntax* for *conditionals* differ in Python and Java?

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Application Questions.

1. Write a Java program that does the equivalent of the following Python program we wrote [much] earlier in the semester:

```python
def main():
    temp = float(input("Enter temp: "))
    if temp > 80:
        print("It is a hot one out there!")
    elif temp >= 60:
        print("Nice day out, enjoy!")
    elif temp >= 40:
        print("Sweater weather!")
    else:
        print("Bring a winter jacket!")

if __name__ == "__main__":
    main()
```