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| **Java** | **Python** |
| public class HelloWorld  {  public static void main (String[] args)  {  System.out.println("Hello, world!");  }  } | print "Hello, world!"  print("Hello, world!") # Python version 3 |

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| **Java** | **Python** |
| int myCounter = 0;  String myString = String.valueOf(myCounter);  if (myString.equals("0")) ... | myCounter = 0  myString = str(myCounter)  if myString == "0": ... |
| // print the integers from 1 to 9  for (int i = 1; i < 10; i++)  {  System.out.println(i);  } | print the integers from 1 to 9  for i in range(1,10):  print i |

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| **Java** | **Python** |
| import java.io.\*;  ...  BufferedReader myFile =  new BufferedReader(  new FileReader(argFilename)); | # open an input file  myFile = open(argFilename) |

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| **Function or Method** | **Java** | **Python** |
| Remove leading and trailing whitespace from string **s** | s.trim() | s.strip() |
| Remove leading whitespace from string **s** | (not available) | s.lstrip() |
| Remove trailing whitespace from string **s** | (not available) | s.rstrip() |

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| **Java (after version 1.5)** | **Python** |
| Vector<Integer> arr = new Vector<Integer>;  Int n=5;  arr.addElement(n);  anotherNumber = arr.getElement(0); | arr = []  n = 5  arr.append(aNumber)  anotherNumber = arr[0] |
| Java | Python |
| if ( a > b )  {  a = b;  b = c;  } | if a > b :  a = b  b = c |

**String****Concatenation**  
String concatenation is + as in Java, but Python does not do implict conversions to string type (str).  It must be explicit:  
Java:

int x = 3  
String s = "The answer is " +  x;

Python:

x = 3  
s = "The answer is " + str(x)

**Functions**Java:

/\*\* javadoc comments.... \*/  
public static int square(int x) {  
    return x\*x;  
}

Python:

def square(x):  
    """ Python function documentation   
    - string indented just inside heading  
    """  
    return x\*x

**if Statement**  
Java

if (x > 3) {  
    x -= 2;  
    System.out.println(x);  
}  
y = x;

Python

if x > 3:  
    x -= 2  
    print x  
y = x

Java's boolean operators **&&**,**||**, **!** are replaced in Python by the *words*: **and**, **or, not.**  The condition

not (x is y)

is better writen with the operator combination "is not":

x is not y

**For-Loops**Suppose **words** is a Java or Python list containing  elements like "yes", "no", "maybe", then  
Java:

for (String w: words) {  
    w = w.toUppercase();  
    System.out.println(w);  
}

Python:

for w in words:  
    w = w.upper()  
    print w

**String****Formatting**  
In both cases fs ends up as "Format with 3 and Hello embedded."  
Java:

int x = 3;  
String s = "Hello";  
String fs = String.format("Format with %s and %s embedded.", x, s);

Python:

x = 3  
s = "Hello"  
fs = "Format with {0} and {1} embedded.".format(x, s);

**Indexing and slices**Java:

String s= "Compute";  
char c = s.charAt(2); // 'm'  
String sub1 = s.substring(1, 4);  // "omp"  
String sub2 = s.substring(3);  // "pute"

Python:

s = "Compute"  
c = s[2]   # "m"  
sub1 = s[1:4] # "omp"  
sub2 = s[3:] # "pute"

**Dictionaries/Mappings**  
Java:

Map<String, String> map = new HashMap<String, String>();  
map.put("Jose", "773-000-1234");  
map.put("Mary", "312-555-9999");  
System.out.println(map.get('Jose'));  
for (String key : map.keySet()) {  
     System.out.println(key);  
     System.out.println(map.get(key));  
}

Python:

map = dict() # untyped - does not require String and String  
map['Jose'] = '773-000-1234' # only require immutable key  
map['Mary'] = '312-555-9999'  
print map['Jose']    
for key in map:  
    print key  
    print map[key]

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| **reading numbers** as input | m,n = input(*"Enter two numbers: "*)  print m, n | **import** java.util.Scanner;  **public class** InputTwo {  **public static void** main(String args[]) {  **int** i, j;  System.out.print("Enter two numbers: ");  Scanner s = new Scanner(System.in)  i = s.nextInt();  j = s.nextInt();  System.out.print(i);  System.out.print(' ');  System.out.println(j);  } |