

(Monty) Python for loops

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Comparison

	Java	C++	Python
source code name	.java	.cpp	.py
Object Oriented?	required	optional	optional
output	<code>new Text(" ", , ,)</code> <code>System.out.print()</code>	<code>cout <<</code>	<code>print(" blah, blah")</code>
functions/ methods	methods (<code>bob.hide()</code>)	functions (<code>gotoxy(4,3)</code>)	functions (<code>str(5)</code>)
input	skipped this (complicated)	<code>cin>></code>	<code>input()</code>
casting <code>int()</code>	<code>int(double)</code>	<code>int(double)</code>	<code>int(string)</code>
if - else	<code>if(boolean)</code> { } <code>else</code> { }	<code>if(boolean)</code> { } <code>else</code> { }	brackets replaced by indenting!

Comparison

Java

C++

Python

for loops

```
for( int i=0 ;i<10 ; i++)
```

exact same as Java

different

for loops in Python

- Same idea as C++ and Java – provides a mechanism for repeated actions
- Syntax different from C++ and Java
- Requires a list
- We are using a list of numbers via the range() function

range function

- `range(num1, num2)` creates the list of numbers from `num1` (and including it) to `num2` (but not including it) incremented by ones
- For example, `range(0,4)` produces the list `0,1,2,3`

for loops in Python

How would we list the numbers 0 through 3?

```
>>> for x in range(0,4):  
    print(x)
```

```
0  
1  
2  
3
```

for loops in Python - explanation

- for **each** number **in** the list, write the number to the screen

More on print() function

```
print("*")
```

```
print("*")
```

output:

```
*
```

```
*
```


More on print() function:

Attributes!!!

```
print("**",end=' ')
```

```
print("**")
```

output:

```
**
```

Lab 8

Write an app that draws a line. Ask the user for line length and if they want a horizontal or vertical line.

Example output:

Please enter line length: 4

Do you want a horizontal or vertical line? vertical

*

*

*

*