

CS 35L

LAB 8, Session 3

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Outline

- Basics of Python
- Java as a compromise between compiled and interpreted languages
- Lab assignment



Details

`mkdir lab3_1` (Make a directory for each lab session)

`cd lab3_1`

`touch lab.log` (optional)

`touch lab.txt`

`touch hw.txt`





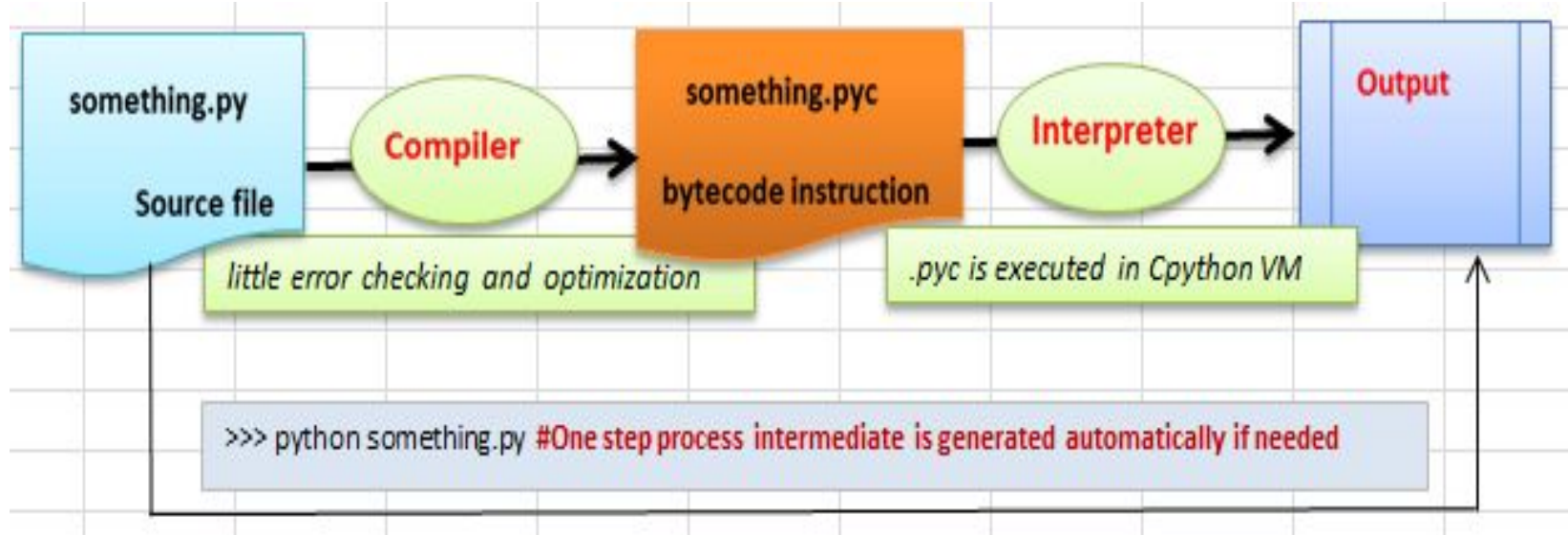
PYTHON

Introduction

- High level programming language
- General purpose
- Byte Code Interpreted
- Dynamic programming language
- Object Oriented



Introduction



Byte code can be interpreted (official CPython), or JIT compiled (PyPy)

Hello world

Python

```
print "Hello\nWorld"
```

```
print 'Hello\nWorld'
```



Math Operations

- Addition
- Subtraction
- Multiplication
- Division (22/3, 22/3.0)
- Remainder
- Exponent
- Substitution
 - `print "1+2 is"`
 - `print "", 1+2, "is"`



Constructs

- Variables
- String manipulation
- For loops
- If
- If else
- If elif else



For loops

```
for iterating_var in sequence:  
    statements(s)
```




Functions

```
def functionname( parameters ):  
    "function_docstring"  
    function_suite  
    return [expression]
```



Functions

```
def functionname([formal_args,] *var_args_tuple ):
    "function_docstring"
    function_suite
    return [expression]
```




Lists, Tuples, Dictionary

Each element of a sequence is assigned a number - its position or index. The first index is zero, the second index is one, and so forth.

A tuple is a sequence of immutable Python objects. Tuples are sequences, just like lists. The differences between tuples and lists are, the tuples cannot be changed unlike lists and tuples use parentheses, whereas lists use square brackets.

Dictionary is essentially a hash table i.e a key value pair. Keys are unique, values are not



Class

```
class ClassName:
```

```
    'Optional class documentation string'
```

```
    class_suite
```





JAVA

Java

