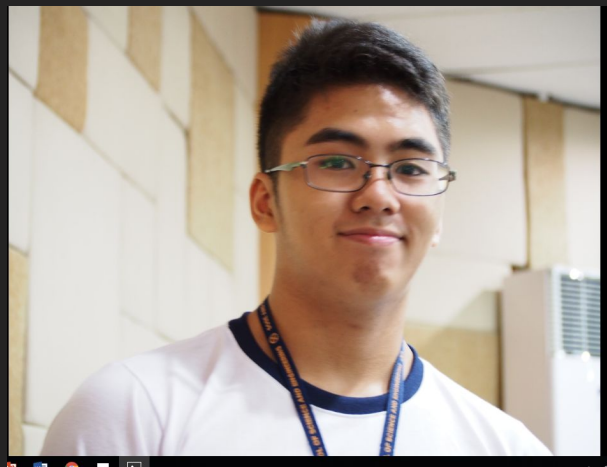
Python Midterm Review

ft. eservs



Agenda

Overview

- Common syntax
- Control structures
- Functions
- Strings
- Lists

Sample Problems

- By our VP <3

Q&A

- Anything sksks

Overview

What is an IDE?

What is an IDE?

- Integrated Development Environment
- Allows you to create, edit, compile, and run programs written in a particular language
  - **Create:** Source-code editor
  - **Compile:** Compiler and/ or interpreter
  - **Run:** Build-automation tools
- (usually) a debugger

Common Syntax

Arithmetic operators:

- +, -, *, /, **, //, %
- PEMDAS applies

Comparison operators:

- <, >, <=, >=, ==, !=

Logical operators:

- And, not, or

Common Data Types:

- Strings, booleans, integers, floats, lists

Useful functions:

- type(var) - tells the type of a value
- input() - takes in STRING input from user

Control Structures

IF

If *condition*:
    statement(s)
elif *condition*:
    statement(s)
....
else:
    statement(s)

LOOPS

while *condition*:
    statement(s)
* break, continue

Functions

Built-in functions:

- type()
- int() - type conversion

Math functions:

- import math
- math.fabs() - abs value
- sqrt() - square root
- math.ceil() - round up

Defining:

```
funcName(parameters)
dog = “ha?”
def hat(x):
    if x == “ha?”
        return “dog”
```

Calling:

```
funcName(arguments)
hat(dog)
```

Overview

What data type does a function return when no return statement is specified?

Strings

- Indexing
- Negative Index
- Immutable
- Traversing a string
- Checking for substrings (‘hot’ in ‘hotdog’)
- Slicing

Useful functions:

- len(str) - length of a string; not counting 0
- str.upper() - CAPS

Strings

```
>>> fruit = 'banana'
>>> fruit[0:3] # 'ban'
>>> fruit[3:5] # 'an'
```

Lists

Definition:

meg = [‘pagod’, ‘na’, ‘aq’]

- Do not have to be the same type (must be the same with merging lists)
- Can be nested
- Mutable, unlike strings
- Indexing
- Repeating lists
- Slicing

Useful list methods:

- len(lst) - length of a list; not counting 0
- lst.append(i) - add item to list
- lst.extend(i) - appends a list to another
- lst.sort() - sorts from low to high
- list() - converts item to list
- lst.split(delimiter) - string to list

Questions?

Sample Problems

http://bit.ly/2BmtEsc