Carleton
UNIVERSITY
Canada's Capital University

ECOR1041

Python Shell
Expressions

Let's Get Started: Python

- **Python : Interactive Mode**
- Python's interactive shell provides a
- *read-eval-print* loop
  - *reads expressions* typed at the shell
  - prompt (>>>), *evaluates* them, and
  - displays the resulting *values*
- We'll now use the shell to start exploring Python's integer (int) and real number (float) types
  - you'll continue with this in Lab 1

Demos

1. **Literals** **4 + 5**
    1. Prompt >>
    2. Expression (terminated by RETURN)
    3. "Returns" single value
2. **Operators**
    1. Do other: minus, multiple, exponents (avoid divide)
    2. Operator Precedence: Just like math (avoid divide)
    3. Divide: 4/2 gives 2.0
        1. *Notice the decimal point. None of the other operations had decimals*
        2. *Introduce: Data Type: int and float*
3. **Data Types: int and float**
    1. Operators behave differently for different data types

Scripts

1. **Floats**
2. **Ints**
    1. Division versus Integer division
    2. Modulo
        1. *Repeat with float modulo (if have time, otherwise, in lab)*
3. **Finite Precision**
    1. Only do if have time. Will cover in later lecture
    2. 1/3 versus 2/3 versus 4/3 versus 5/3

Summary

- **Vocabulary**
  - Interactive, shell
  - Type (datatype) and Literal value
  - Expression and Operand, Operator
  - Operator Precedence
- **Semantic Rules**
  - The data type of a value determines how they behave when combined
    - *Two floats produce a float*
- **Programming Style:**
  - Rules to be followed to write professional code
  - Example: floats are written as <value>.0