

Introduction to Python

Feature Summary, Session 1

OPERATORS

- **+, -, *, / (basic math operators)**
"arguments": integer/float and integer/float
"return value": integer/float

`var = 5 * 10      # 50`
`int * int -> int`
- **** (exponent operator): *raise one number to power of another***
"arguments": integer/float and integer/float
"return value": integer/float

`var = 5 ** 2      # 25`
`raise int to power of int -> int`
- **% (modulus operator): *remainder from division of two numbers***
"arguments": integer/float and integer/float
"return value": integer/float

`var = 7 % 2      # 1`
`get remainder of int divided by`
`int -> int`
- **+ (concatenation operator): *combine 2 strings into a new string***
"arguments": 2 strings
"return value": string

`var = 'hello' + ', world!'`
`concatenate 2 strs -> str`
- *** (string repetition operator): *repeat a string multiple times***
"arguments": a string and an integer
"return value": a string

`var = 'hi' * 3    # 'hihihi'`
`repeat a string int times -> str`

FUNCTIONS

- **exit(): *terminate execution immediately***
argument: optional string message
return value: N/A

`exit()`
`exit the program`
- **input(): *return string of user input from keyboard***
pause execution, take keyboard input
argument: optional string prompt
return value: string, the characters the user typed

`x = input('enter num: ')`
`str -> take user input -> str`
- **int(): *return integer object based on argument***
argument: string or float
return value: integer

`x = int('55')      # 55`
`str -> convert to int -> int`
- **float(): *return float object based on argument***
argument: string or int
return value: float

`x = float('30.9')      # 30.9`
`str -> convert to float -> float`

- **str(): convert any object to string representation**

argument(s): object of any type

return value: string

```
x = str(55)           # '55'
int -> convert to str -> str
```

- **len(): return integer length of a string**

argument(s): string

return value: integer

```
mylen = len('hello')  # 5
str -> get length of str -> int
```

- **print(): write text to the screen**

argument(s): any object or objects

return value: None

```
print('hello')
print('hello', end='\n')
str -> print to screen
```

- **round(): round a number to specified places**

argument(s): a float and optional integer

return value: a float or integer, depending on 2nd arg

```
x = round(3.5699, 2)  # 3.57
x = round(3.5699)     # 4
float, int -> round -> float
```

- **type(): return type of any object**

argument(s): any object

return value: a 'type' object showing type

```
print(type(var))      # <class 'int'>
int -> print type of object
```