

# homework-lesson02

February 3, 2018

## 0.1 Python Lesson 2 Examples:

Convert from one data type to another in Python:

- `int(x)` : convert the value of the variable x to integer
- `float(x)` : convert the value of the variable x to float
- `str(x)` : convert the value of the variable x to a string

`print(x)` print a string variable's value

### 0.1.1 Print the square of a number

- Note1: this is a demo on how to convert a number to a string
- Note2: your program output should be a meaningful sentence or equation. Do NOT just output a number.

```
In [15]: x = 10.5
         print(str(x) + " * " + str(x) + " = " + str(x*x))
```

10.5 \* 10.5 = 110.25

### 0.1.2 calculate the area of a circle with a radius of 17

Note: your program output should be a meaningful sentence or equation. Do NOT just output a number.

```
In [1]: import math
        radius = 17.0
        print('area = ' + str(radius*radius*math.pi))
```

area = 907.9202768874502

## 0.2 For your reference: How to format text with Jupyter Notebook "Markdown"

[Markdown Cheat Sheet](#)

### 0.3 Python Lesson 2 Homework

#### 0.3.1 problem 1

Use Python to calculate:  $1+2+3+4+5+6+7+8+9+10 =$

In [1]: # put your python code here

#### 0.3.2 problem 2

Use Python to calculate:  $4*5+60*(20-8)/2 =$

In [2]: # put your python code here

#### 0.3.3 problem 3

Use three variables, representing an integer, a string and a float, print them in one line. for example, let v1 equal to 100, let v2 equal to string " and ", v3 equal to 12.345, your program should output:

100 and 12.345

In [1]: # put your python code here

#### 0.3.4 problem 4

Do not use a calculator. Calculate the perimeter of a rectangle with a length of 1233.75 feet and height of 637.84 feet. Your output should be like this (replace the xxx with the actual number):

The perimeter of the rectangle is xxx feet.

**Challenge question:** how to output float numbers with only two digits after decimal point. for example 12.02 instead of 12.0200001.

[Hint on StackOverflow.com](#)

In [2]: # put your python code here

#### 0.3.5 problem 5

Do not use a calculator. Calculate the perimeter in feet, of a circle with radius of 121.1 inches.

In [3]: # put your python code here

#### 0.3.6 problem 6

Do not use a calculator. Solve the following word problem in Python:

On a hiking trip, it took Nastia  $\frac{2}{3}$  hours to walk for a half mile and then 900 seconds to run 1.2 miles. Please use a Python program to calculate Nastia's average speed of her whole trip. Print our your answer in the following format, replace 'nnn' with the actual number you get:

Average speed is nnnn miles per minute

In [4]: # put your python code here

### 0.3.7 problem 7

Use build-in type() function, print out the type of the following items:

- 123

```
In [12]: # this is an example. run this cell and see what you get
         type(123)
```

```
Out[12]: int
```

- -567

```
In [13]: # put your python code here
```

- "123"

```
In [6]: # put your python code here
```

- 1.23

```
In [7]: # put your python code here
```

- True

```
In [8]: # put your python code here
```

- complex(3, 4)

```
In [9]: # put your python code here
```

### 0.3.8 Problem 8 (optional)

try the following line of code, and see what type is input()?  
type(input())

```
In [14]: # put your python code here
```

## 0.4 That's all for today! Have a good weekend!