# ch_2_assignment

March 6, 2023



## 0.1 ch_2_assignment

[ ]:
```
from IPython.core.interactiveshell import InteractiveShell
InteractiveShell.ast_node_interactivity = 'all'
```

### 0.1.1 Arithmetic

[ ]:
```
# Addition
4 + 13

print("#"*30)

# Substraction
15 - 3

print("#"*30)

# Multiplication
4 * 7

print("#"*30)

#Division
5/2
4/2
```

[ ]:
```
17

##############################

12

##############################

28
```

```
##############################
```

[ ]: 2.5

[ ]: 2.0

### 0.1.2 Types

[ ]:
```
# two floats
17.0 - 10.0

print("#"*30)

# int and float
17.0 - 10
17 - 10.0

print("#"*30)

# omit zero_float
17 - 10.
17. - 10
```

[ ]: 7.0

```
##############################
```

[ ]: 7.0

[ ]: 7.0

```
##############################
```

[ ]: 7.0

[ ]: 7.0

### 0.1.3 Integer Division, Modulo, and Exponentiation

[ ]:
```
# Integer division (quotient)
17 // 10
-17 // 10

print("#"*30)

# Modulo operator (remainder)
53 % 24
```

```
-17 % 10
17 % -10

print("#"*30)

# Exponentiation
3 ** 6

print("#"*30)

# Negation
-5
--5
---5
```

[ ]: 1

[ ]: -2

```
##############################
```

[ ]: 5

[ ]: 3

[ ]: -3

```
##############################
```

[ ]: 729

```
##############################
```

[ ]: -5

[ ]: 5

[ ]: -5

### 0.1.4 What is a type?

[ ]:
```
# Finite Precision

2 / 3
5 / 3

print("#"*30)
```

```
2 / 3 + 1
5 / 3

print("#"*30)

10000000000 + 0.00000000001

print("#"*30)

# Operator Precedence
    ## Converting Fahrenheit to Celsius

212 - 32 * 5 / 9
(212 - 32) * 5 /9
```

[ ]: 0.6666666666666666

[ ]: 1.6666666666666667

```
##############################
```

[ ]: 1.6666666666666665

[ ]: 1.6666666666666667

```
##############################
```

[ ]: 10000000000.0

```
##############################
```

[ ]: 194.22222222222223

[ ]: 100.0

### 0.1.5 Variables and Computer Memory

[ ]:
```
# Assigning a new variable a value
degrees_celsius = 26.0
9 / 5 * degrees_celsius + 32

print("#"*30)

degrees_celsius = 0.0
9 / 5 + degrees_celsius + 32

print("#"*30)
```

```
degrees_celsius = 15.5
difference = 100 - degrees_celsius
difference
```

[ ]: 78.80000000000001

```
##############################
```

[ ]: 33.8

```
##############################
```

[ ]: 84.5

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Reference * Title: Physics Programming Lecture Note (INU) * Author: Jeongwoo Kim, Ph.D. * Availability: https://sites.google.com/view/jeongwookim

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