```
# 1. Variables and Printing Values
# Defining variables
professor = "Jeonghwan Gwak"
a = 7
b = 5

# Printing variables and results
print(professor)      # Outputs: Jeonghwan Gwak
print(a + b)          # Outputs: 12
print("a + b")        # Outputs: a + b (as a string)
```

```
Jeonghwan Gwak
12
a + b
```

- Variable `professor` holds a string.
- `a` and `b` are integers, and `print(a + b)` adds them.
- Quotation marks around `'a + b'` treat it as a string.

```
# 2. Data Types in Python
# Integer and float
a = 1      # Integer
b = 1.5    # Float

# String and boolean
c = "ABC"  # String
d = True   # Boolean

# Printing values and their types
print(a, type(a))  # Outputs: 1 <class 'int'>
print(b, type(b))  # Outputs: 1.5 <class 'float'>
print(c, type(c))  # Outputs: ABC <class 'str'>
print(d, type(d))  # Outputs: True <class 'bool'>
```

```
1 <class 'int'>
1.5 <class 'float'>
ABC <class 'str'>
True <class 'bool'>
```

- `type()` reveals the data type of a variable.

```
# 3. Basic Arithmetic Operations
# Arithmetic operations
print(25 + 30)  # Outputs: 55
print(30 - 12)  # Outputs: 18
print(50 * 3)   # Outputs: 150
print(30 / 5)   # Outputs: 6.0

# Exponentiation
print(3 ** 5)   # Outputs: 243

# Floor division and modulus
print(7 // 2)   # Outputs: 3
print(7 % 2)    # Outputs: 1
```

```
55
18
150
6.0
243
3
1
```

- Demonstrates basic arithmetic and operations such as floor division (`//`) and modulus (`%`).

```
# 4. Data Type Conversion
# Integer to float
a = 10
print(float(a))  # Outputs: 10.0

# String to float
b = "76.3"
print(float(b))  # Outputs: 76.3
```

```
# Float to integer
c = 10.7
print(int(c))    # Outputs: 10
```

```
10.0
76.3
10
```

- Convert between integers, floats, and strings using `float()` and `int()`.

```
# 5. Type Checking with type()
a = int(10.3)   # Integer type
b = float(10.3) # Float type
c = str(10.3)   # String type

# Checking types
print(type(a))  # Outputs: <class 'int'>
print(type(b))  # Outputs: <class 'float'>
print(type(c))  # Outputs: <class 'str'>
```

```
<class 'int'>
<class 'float'>
<class 'str'>
```

- Use `type()` to check the type of any variable.