

Knowledge Organiser: Python 1 Fundamentals

Variables

We use variables to temporarily store data in computer's memory.

```
price = 10
rating = 4.9
course_name = 'Python for Beginners'
is_published = True
```

In the above example,

- **price** is an *integer* (a whole number without a decimal point)
- **rating** is a *float* (a number with a decimal point)
- **course_name** is a *string* (a sequence of characters)
- **is_published** is a *boolean*. Boolean values can be True or False.

Arithmetic Operations

```
+
-
*
/      # returns a float
//     # returns an int
%      # returns the remainder of division
**     # exponentiation - x ** y = x to the power of y
```

Augmented assignment operator:

```
x = x + 10
x += 10
```

Operator precedence:

1. parenthesis
2. exponentiation
3. multiplication / division
4. addition / subtraction



Receiving Input

We can receive input from the user by calling the **input()** function.

```
birth_year = int(input('Birth year: '))
```

The **input()** function always returns data as a string. So, we're converting the result into an integer by calling the built-in **int()** function.

```
# This is a comment and it won't get executed.
# Our comments can be multiple lines.
```

String Manipulation

```
message.upper()    # to convert to uppercase
message.lower()    # to convert to lowercase
message.title()    # to capitalize the first letter of every word
message.find('p')  # returns the index of the first occurrence of p
                  # (or -1 if not found)
message.replace('p', 'q')
```