Variables and data type

A variable is the name given to a memory location in a program for example

```
a = "hacksbyte"
b = 5.
c = 3.70
```

variable ⇒ container to store a value

Keywords ⇒reserved word in Python

Identifier. ⇒ class/function/variable name

Data type

Primarily there are following data type in python

1. Integers
2. String's
3. Floating point numbers
4. Boolean's
5. None

Python is a fantastic language that automatically identify the type of data for us.

```
a = 10 ⇒ identifies a as class <int>
b = 9.5 ⇒ identifies b as class <float>
Name = "hacksbyte" ⇒ identifies Name as class <str>
```

Rules for defining a variables name → also applies to other identifies

⇒ a variable name can contain alphabet, digits and underscore.

⇒ a variable name can only start with an alphabet and underscore

⇒ a variable name can't start with a digit

⇒ no while space is allowed to be used inside a variable name.

Example of a variables name's are :-

Hacksbyte , one, two, three etc.

Operators in Python

Following are some common operators in Python

```
Arithmetic operators ⇒ + , - , * , / et.
Assignment operators ⇒ = , += , -= etc.
Comparison operators ⇒ == , > , >= , < , ! = Etc
Logical operators ⇒ and , or , not
```

Type () function and typecasting

Type function is used to to find the data type of a given variable in Python

```
a 40
type(a) ⇒ class <int>
b = "5"
type (b) ⇒ class <str>
```

A number can be converted into a string and via versa (if possible)
There are many functions to convert one data types into another

```
str (40) =>  "40" ⇒ integer to string conversion
Int("45") => 45 ⇒ string to integer conversion
Float (46) => 46.0 ⇒ integer to float  conversion
```

Here "40" is a string literal and 40 a numeric literal

Input function

This function allowed the used to take input from the keyboard as string
a = input (" enter your name")
⇒ if a is "hacksbyte" the user entered hacksbyte

It is important to note that the output of input is always
⇒ if a is "40" user entered 40
a string (even if the number is entered)