

## Ques. What is python Variables?

- Variables are containers for storing data values.
- A variable name must start with a letter or the underscore character.
- A variable name can only contain alpha-numeric characters and underscores
- A variable name cannot start with a number.

```
x = 5
y = "John"
print(x)
print(y)
```

Output:-

```
5
John
```

- **Case-Sensitive** : Variable names are case-sensitive (age, Age and AGE are three different variables)

```
a = 4
A = "Sally"

print(a)
print(A)
```

Output:-

```
4
Sally
```

- **Variables Casting**: We want to specify the data type of a variable, this can be done with casting. and We can **get the data type** of a variable with the **type()** function.

```
x = str(3)
y = int(3)
z = float(3)

print(x)
print(y)
print(z)
```

Output:-

```
3
3
3.0
```

```
x = 5
y = "John"
print(type(x))
print(type(y))
```

Output:-

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

- **Single or Double Quotes:-** String variables can be declared either by using single or double quotes:

```
x = "John"
print(x)
#double quotes are the same as single quotes:
x = 'John'
print(x)
```

Output:-

```
John
John
```

- **Assign Multiple Values:** Python allows you to assign values to multiple variables in one line.

```
x, y, z = "Orange", "Banana", "Cherry"

print(x)
print(y)
print(z)
```

Output:-

```
Orange
Banana
Cherry
```

- **One Value to Multiple Variables:** And we can assign the same value to multiple variables in one line.

```
x = y = z = "Orange"

print(x)
print(y)
print(z)
```

Output:-

```
Orange
Orange
Orange
```

- **Unpack a Collection:** If we have a collection of values in a list, tuple etc. Python allows you to extract the values into variables. This is called unpacking.

```
fruits = ["apple", "banana", "cherry"]  
x, y, z = fruits
```

```
print(x)  
print(y)  
print(z)
```

Output:-

```
apple  
banana  
cherry
```