Raj Cloud Technologies
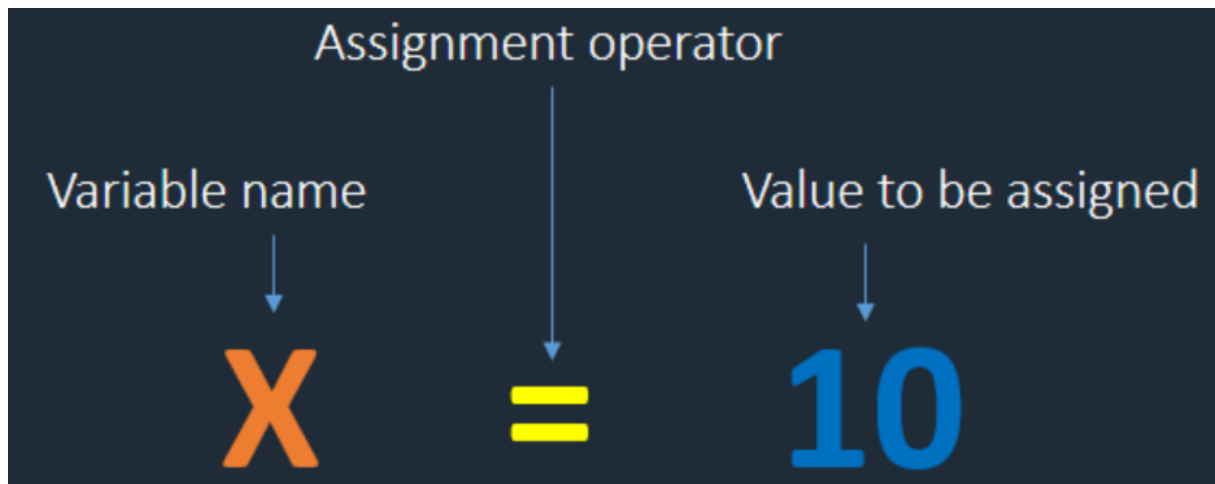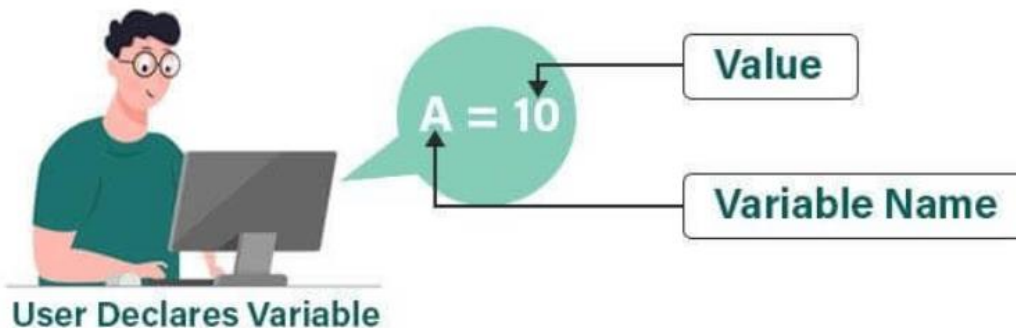### Online Job-Based Software Training Institute

Python Training Program

Variables

What is Variable
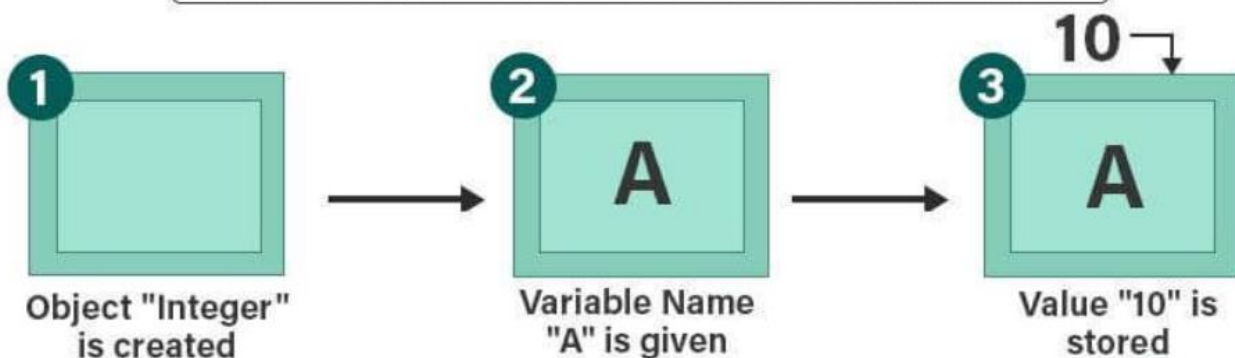
Python Variable is a container to store, manipulate and reference values/data throughout the application

How to declare a variable?

a = 10

b = 123.45

c = 'Hello'

d = [1,2,3,4,5]

a = b

a = b = c = 10

➔ **Let's Check**

Rules for declaring Python variables

- Variable name cannot start with a number; it must start with a letter or the underscore character (_)
- Variable name cannot contain a whitespace.
- Variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _) and should not contain special characters (& * ! - $ etc..)
- Variable names are case-sensitive (age, Age, aGe, and AGE are 4 different variables)
- The reserved words / keywords (if, else, for, while, def, class, try, except, int, float, bool, str, return, yield etc..) in Python cannot be used to name the variable in Python

Naming convention of Python variable

- Preferably variable names in Python are in lowercase (a, name, age, number etc..) except special cases like constants for which upper case names are used (PREFIX, URL, DOMAIN, RATIO, INTEREST, PATH, DIRECTORY etc..)
- Variable names better to follow the Snake case (name, customer_age, file_path etc..) rather than Camel case (customerName, customerAge, filePath etc..) or Pascal case (CustomerName, CustomerAge, FilePath etc.)

➔ **Let's Practice**

Takeaway

- A Variables in Python is a name/identifier/pointer given to a memory location
- A variable in Python is dynamic type compare to other languages (c/c++, c#, java etc..). So the value stored in a variable can be changed during program execution
- In Python every variable is an object

Assignment

1.What is the output of below code snippets

a.
```
int a = 100
```

b.
```
list l = [1,2,3,4]
```

c.
```
a = 20;
```

d.
```
t = Tuple([10, 20, 30])
```

e.
```
name = "Raj"
NAME = "Javeed"

print(name)
print(NAME)
```

f.
```
a = 100
print(a)
a = "Hello Python"
print(a)
b = a
print(b)
```

g.
```
x = y = z = "Raj Cloud Tech"
print(x, y, z)
y = "Python Training"
print(x, y, z)
```

h.
```
7g = "street"
print(7g)
```

i.
```
a1 = 100
print(a)
```

j.
```
experience* =  5
print(experience)
```

k.
```
_name = "Javeed"
Print(_name)
```

2. Theoretical questions

a. What is static & dynamic data type
b. are variables in python dynamic type
c. What are the best practices for variable naming convention and importance of it
d. are variables in python objects/reference type