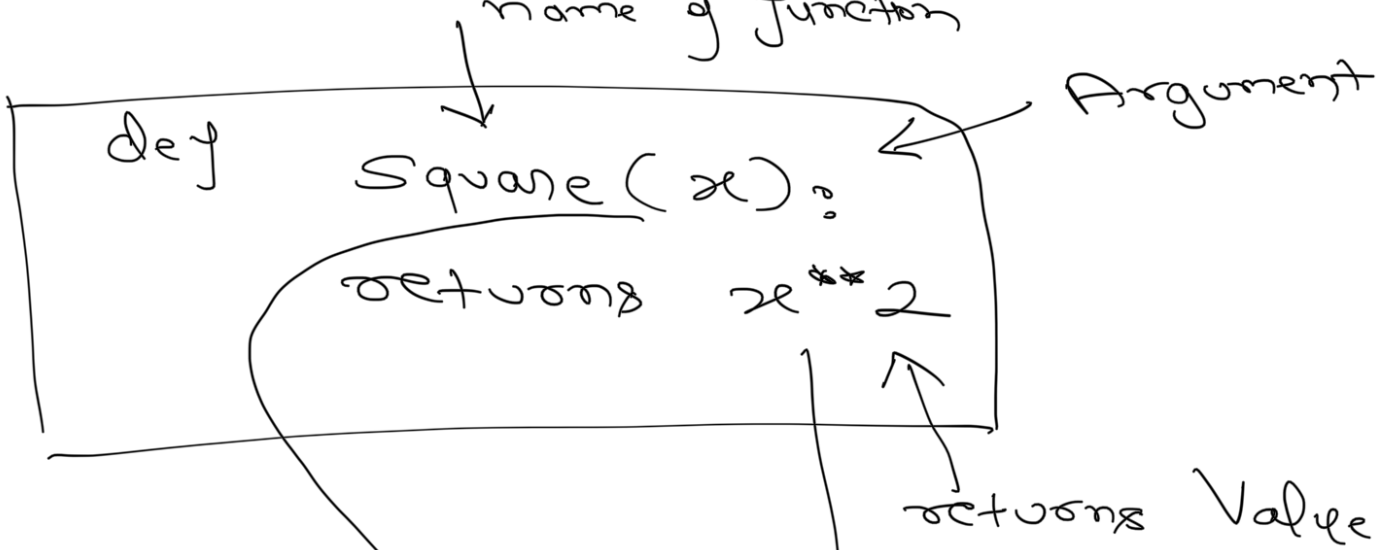
Functional Programming:

- Programming Paradigm
- which focuses on **what to do**

instead of

How to do X

- Mathematic Function $f(x) \rightarrow y$



- lambda x : x**2

$f(x) \rightarrow y$

$f(x) \rightarrow x^{**}2$

F.P format

```
lambda input : output
```

```
lambda x : x**2
```

Ex-2

```
lambda x : x+10
```

Higher Order Functions

⇒ A function that returns another function.

```
def gen_exp(n):
    def exp(x):
        return x**n
```

e ⇒ `def exp(x):`

```
def x**n
    return exp
```

```
e = gen_exp(5)
```

e(2) ⇒ 2**5

e(3) ⇒ 3**5

Examples:

e_6 ⇒ gen_exp(6) ⇐

e_6(2) ⇒ 2**6

e_6(3) ⇒ 3**6

Higher Order Function helps in creating new Functions on the go.

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