Functional programming 2

2) Zip takes "two or more 'iterables' and zips them into tuples

3) Zip (* zipped-object) can be used for unzipping

3) The output of Zip depends on length of iterable which has minimum length.

* args can be used to pass additional optional arguments in form of a tuple

** kwargs : for additional keyword Arguments in form of dictionary

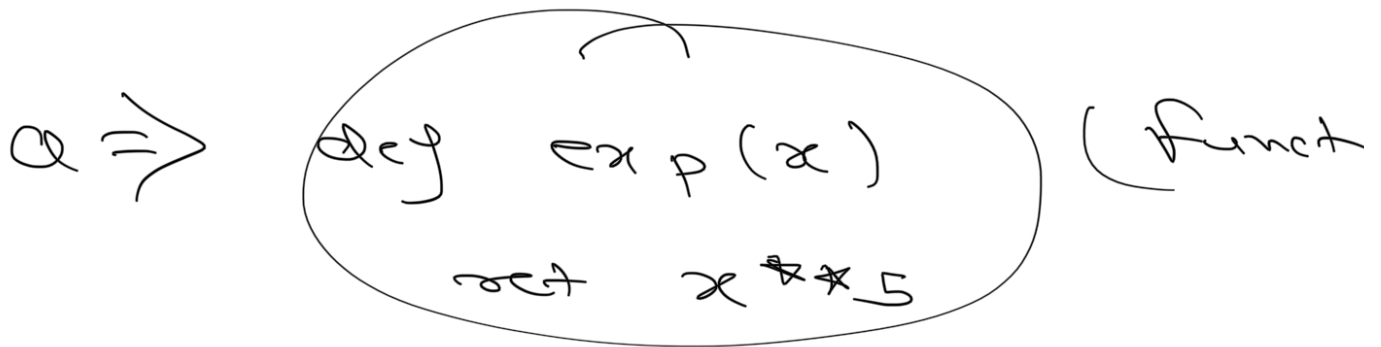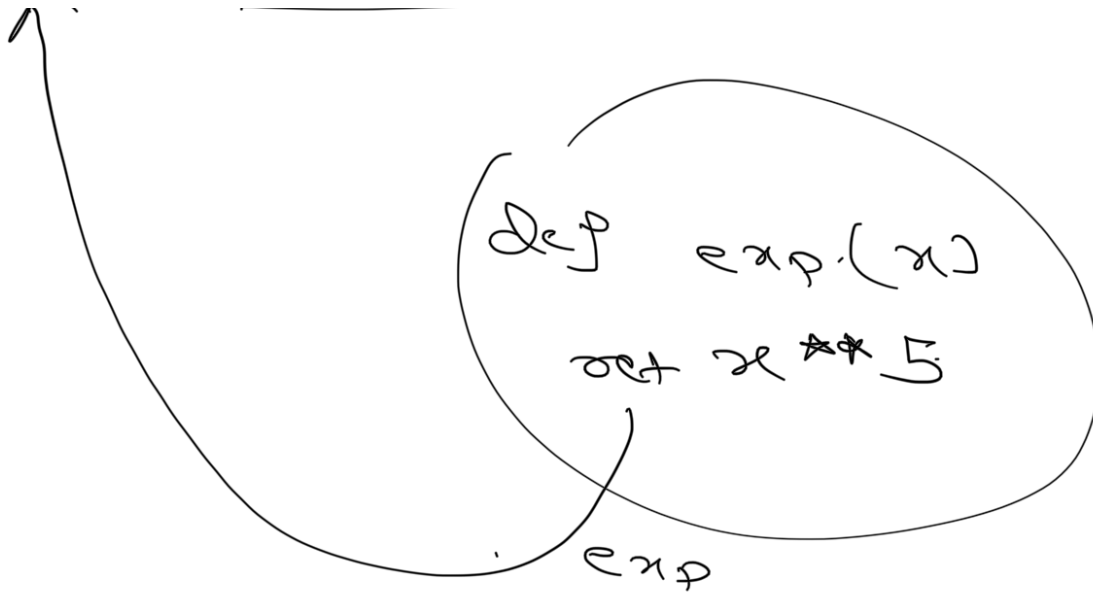3) Higher Order function

A function which returns another function

```
def sum:
        return (str, list, int, float
                    dictionaries, set, tuple
```
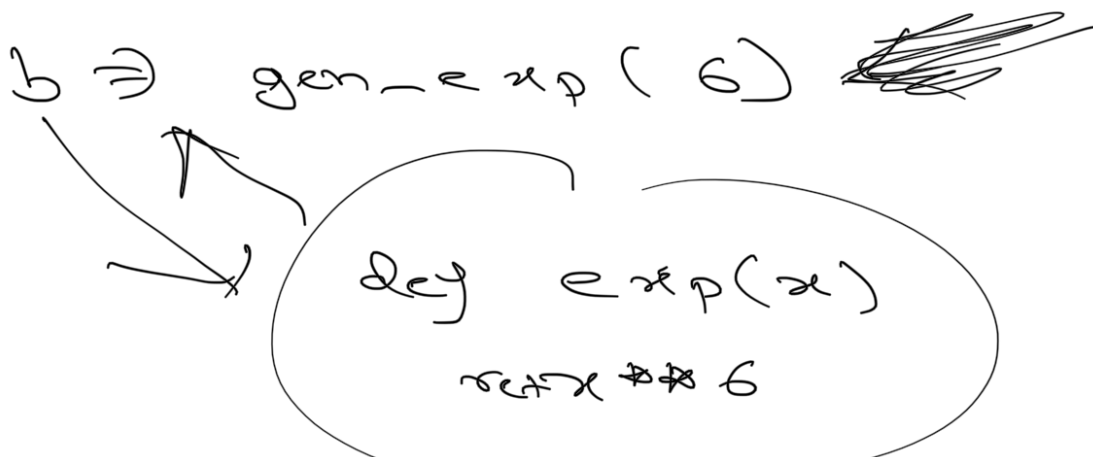
```
def gen_exp (y)
        def exp (x)
                return x**y
        return exp
```

a = gen_exp(5)

```
def exp.(x)
    ret x ** 5.
```

exp

$a \Rightarrow$
```
def exp (x)
    ret x ** 5
```
(funct

$a(2) \Rightarrow 2 \text{ ** } 5$

$b \Rightarrow \text{gen\_exp}(6)$

```
def exp(x)
    ret x ** 6
```

$b(3) = 3**6$

Extension of HOF

& Decorator
- takes function as argument
- return function