25/05/25 Map Reduce & Filter. Maps: a collection to another collection object based on certain 12.56637....) functionality. → map (function, iterable object) 58-12-43 -) Example: firstname = ["Adell, Bob, Carrie, John"] Map the list to obtain the names in uppercase -> list (map (lambda x: x. upper (), firstname))

> Filter > Similar function, but it requires the function to Look for a condition and their returns they these elements from the collection that satisfies the condition. Data = [d1, d2, ---, dn] filter (f, data) is programmed asb > Reduce: An operation that breaks down the entire process into pair-wise operations and uses the result from each operation, with the successive element. Function = f(x,y) and anaryment to me moisons abdued to reduce (f, data): tod extranspro point you said nos a side of sept:

Step1: roiderary: functional votages to the september of the septemb Example: Traditional way citatio - opposit - 1 solve x3 import math AND (2) Your def area (r): return math.pi*(r**2) radii = [1, 2, 3, 4, 5] (3 rodram ocal priobA: elquero areas = [] dep dep de color obtains for r in radii:

a = area(r)

areas. append(a)

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6 110 losso Mop Reduce & Filter. olp: [3.14151926: 1996 oddathar willow of notation a regall 12.56637...., (poido aldori: notono) que e 50. 2654 gard, dod , with a modern't signify of 48. 53981.... June 100 of the significant of the signif

- Lite(map (lambda x: virgpa (), firstinamel)

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     ilp: map(area, radii)
                                                  Broke inchang
  To get output: list(map (area, radii))
                                                      () asgs ()
 > convert Celsius Scale to Farheneit.
                                                       Obcer 3
     f= 915*C +32
  Ans: temps = [("Mumbai", 34); ("Vizag", 44), ("Nandyal", 23)]
  1/p -> Cel-10-F = Lambda data: (data[0], (9/5)* data[1] +32)
  1/p > map (cel-to-f), temps)
  1/P → list (map (cel-to-F, temps))
                                            -(will) fairs
  0/p > [('Mumbai', 77.0), ('vizag', 111.2), ('Nandyal', 73.4)]
@ Filter functions: filters out the data" ("txt. test") and and all of
                                   Disting Alter function,
  filter (function, data)
                                             you can get vid of
 1/p: import statistics
                                     ('w', (184. Helt. Hel) 'w')
  data=[1,2,3,4,5,9,12,4,2,9]
 1/P: avg = Stalistics. mean (data)
                                     name = ["KK", "prelli"
                                                [ 0 /11.114se()
     Print(aug)
                                   ilp: 6'Her (None, name)
 -> filter (lambda x: x > avg [data]
 -> list (filter (lambda x: x> avg, data) con ilp: list (filter (Non, rang)
 olp: [9,12,9] ("milasqo sho a zi zin" Olp: [UKEI;" preeHi]
Deduce Functions:
                                   (1) the spen ("test txt", "1")
  ilp: from functools import reduce.
                                          ंचेते तो धारी नर्जा
     data = [1,2,3,4,5]
  ilp: multiplier = lambda xy: x*y (40400000 evil word) notioning of B
     reduce (multiplier, data) (milosogo stinos ei ent') stinos alli
                                     the open ('test, (xt') 'w')
  이ף: 120
                                      ("a/") slie . 1)
                            Ele. wite ("Hello! Thank")
                                        file close ()
```

1 File handling. ilp: map(axea, radii) Basic functions and methods: -> convert celsius book to fortaneite () Open() 2 read() F= 915*C +32 3 close() P Reading a file: file= open('test.txt', 'r') (1) otob (31), to Klename. Mode Three Modes of file roles -s reading, writing, executing. ilp: for line in 64: print (line) ((dquet, 7-of. le) gom) teil = 911 @ we can read the ble by: gosivi), (0.44 indiam') = 915 lip: Print (file read(5)) ilp: file = Open ('lest. +xt', 'r') -) returns 5 characters Print (file. read()) old: (Hello) and sout) with writing a file: print (file readline()) ilp: file = open (test. txt , 'w') returns first line of file file write ("This is a write operation") of Hello world. To file close() Frint (aug) inches the spend of the control of t ilP: with open ('fest txt', 'a') as file: The said "file world ("This is a write operation") ilp: file = open ('test.txt', 't') Gredica functions: for line in sle: ilps from functions import reduces Print (line) dala: [1,2,3,4,5] 1 In operation (new line operation) file = open ('test. txt', 'w') file, write (This is write operation) (other wildlings) water file. write ("In") file. write ("Hello! Thanks") file. close ()