Task 8: Implement python generator and gecom fars:

write a python program to Implement python generator and decorators.

8.1. Write a python program that Encludes a generalor faction to produce a sequence of numbers. The generator should be also to.

a) Produce a sequence of numbers when provided with start rend, and step values.

## Algorithm !-

- 1. Define Generator Function:
  - · Define the fonction number\_sequence (start, end, step=1)
- 2 Initialize Correct value. a set current to the value of start.
- 3. Generale Sequence.
  - o while arrent is less than or equal to end. Yield the correct value of correct. Increment whent by step
- 4. Get User Input. · Read the storting number (stort) from user input
  - · Read that ending number (end) from user injut
  - · Road the step value (step) from ver 1 Propot.
- 5. Create Generater object
  - o Create a generator object by calling numbersequence (start, end, step) with wer-provided values.

Output: and inhorasop willing transitud is death Enter the starting number 31 Enter the onding number: 50 Enter the step volve:5 - Mill enterioristo lovo decembers profess o pylios program that technolis is made at residence to conjugate a subsery of without 16 of calo of bloods when my 21 examine to somewhat a much for 26 with what tends and offer weling 31 36 - millimplA 41 1. Ochfre Greenator Furchary 46 of the first in rundon sugar (13942 trade to sular eit of trams to 2 . in a lawyor is not seed it knows while o 2. Germate Sugar a tredd the count value or comed place transcort toget was hoped · Read the standing randow (st. 1) · Pur a Read And conding marks (m. 1) of ... Or 4 Till some one (gold) when the boutter to you reterrated state and we will be they a storage a standard in lovery - road Affer (gold born frois) serry

6. Print Generator Sequence oftenate over the values produced by the generator object. · Pitch each value. Brogram: def number\_ sequence (start, end, step=1): current = start while current <= end: yield coment current + = step stort = int (inpot ("Enter the starting numbers")) end = int (input ("Enter the ending number:")) step = int(intput("Enter the step value: ")) therease the generator sequence = generator= number\_ sequence (start, end, step) Aprint the generated enquence of numbers For number in sequence-generator: print (number) b) Produce a default sequence of number starting from o , ending at 10, and with a step of 1 if no values are provided. Algorithm. 1. Start Function: · Define the function my-generator (n) that takes a parameter n. 2. Introlize Counter. o set value to 0. 3. Generate values. o while value is less them n. Yield the current value Increment value by 1.

Child Gerarde Commercia output: o alt got knowling miles alt rave thankle . to its returning adow down dotill. I (1 - roke , how, to obs) a stranger wadness hat truto - trong the corner to cond: tramo Stip ((" a vadrance pritride all valua") tearing murbers = )) ((" vodence gribos alle voter?") trigo?) tri : bris ((" andor gots aft votal") tootai) for Each recharging it should (gate, his, trede) asverypas \_vadmus . retwooner - as myse 20 returned to esproupes before of frings : retornes - serveyes mi redman is (radmon) tring that rodering to asmanger that is a month 1 To got a dia bus ou to pribes, a mark believes or or to med rop A what that (v) retaining your not not set and or working I was a intercent of when while ? ) of sallow Hole soular storage is . It make soil at a section of the a West the corners toler I to sendor framework

c. Create Generator object

· Call my-generator (11) to create a generator object

5. Iterate and Print Values.

ofor each native produced by the generator object:

Print nation.

Bogram:

def. my-gonerater (n):

#initialize counter

value=0

#loop until ownter is less than n

while value <n:

# produce the cornent value of the counter.

yield value

#increment the counter

value +=1

## iterate over the generator Doject produced by my-generator.

For value in my-generater (3).

#print each volve produced by generator.

print (volue)

8.2: Insagine you are working on a mostaging application that needs to format messages differently based on that needs to format messages differently based on the user's performce. User can choose the have their messages automotically converted to upper case (for emphase) messages automotically converted to upper case (for emphase) or topercase (for a softer tone). You are provided with two diver decoratories uppercase decorator and lowercase—two diver decoratories uppercase decorator and lowercase—technology. Those decorators modify the behavior of the functions they decorate by converting the text to uppercase or lowercase, respectively. Write a program to implement it.

Algorithm:

1. Create Decorators:

obefine uppercase decorator to convert the result of a function to uppercase.

Civila rotaronal . se

· Define lowercase-decorator to convert the result of a finction to lowercase.

2. Define function.

o Define short function to neturn to convert the input text. Apply @ uppercase\_decorator to thes forction.

o Defene whisper firetion to return the import text. Aprily @ buercase\_decorator to this function

3. Define Greet Furction A 40 all Mr.

· Define greet furction that: Accepts a function (Bnc) as imput alls this finction with the text "HP, I am. created by a function possed as an argument. prints the result.

4. Execute the program:

· Coll great (shout) to print the greeting in uppercase

· Call greet (whisper) to print the greeting in lowercase

Bogram:

def uppercase - Leconator (Ruc)

def wapper (text)

return forc(kxt).upper()

return wrapper.

def lowerrase \_decorator (forc)

det wapper (text)

return func (text) . lower ()

betien wapper.

@ upper case\_decorator / forc) del shout (text): return text a lower case decorator def whisper (text): neturn/text def greet (forc): greeting = func ("Hi", I am created by a firetion passed as an argument without required writers to Apply a basycose-decorator to this tento Ostpot: Hi, I AM CREATED BY A FUNCTION PASSED AS AN · fath mothers tours that ARGUMENT hi, iam created by a finction possed as an argument so so bassay nothing a god between " Ent agreed (Short) to print the greating " good ware the print of (volgidar) to age that a (tx4) require tab 1) . AND . (+x 1) ] weeken rundand areta . when the layer . hard .

a upper case . decoator det Bloot (text): retorn text @ lowercase - decorator del whisper (text) return text def greet (finc): greeting = Fine ("Hi, I am created by a fretion possed as an argument") print (greating greet (shout) greet (whisper)

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EX No.	***
PERFORMANCE (5)	
RESULT AND ANALYSIS (3)	
VIVA VOCE (3)	
RECORD (4)	
TOTAL ((5)	
SIGN WITH DATE	

Result:

Thus the python program to implement python generator and decorators was successfully excuted and the output was verified.