

## task 7 Implement Python generator and decorators

Aim:-

write a program to implement Python generator and decorators.

Q.1 Produce a sequence of number when provided with start, end and step values.

Algorithm:-

1. Define Generator function.
2. Initialize current value.
3. Generate sequence.
4. Get user input.
5. create Generator object.
6. Print generated sequence.

Program.

```
def number_sequence(start, end, step=1):
```

```
    current = start
```

```
    while current <= end:
```

```
        yield current
```

```
        current += step
```

```
start = int(input("Enter the starting number:"))
```

```
end = int(input("Enter the ending number:"))
```

```
step = int(input("Enter the step value:"))
```

```
if create the generator
```

```
sequence_generator = number_sequence.
```

Output:-

Enter the starting number: 1

Enter the ending number: 50.

Enter the step value: 5.

1

6

11

16

21

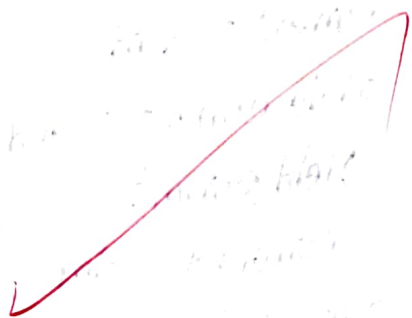
26

31

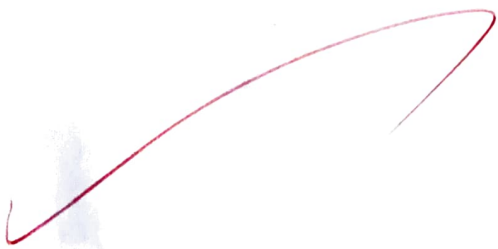
36

41

46.



# Print the generated sequence of numbers for number  
Print (number)



2. Imagine you are working on a messaging application that needs to format messages differently based on the user's preferences.

Algorithm:

1. Create Decorators.
2. Define Functions.
3. Define Greet Function.
4. Execute the Program.

Program:

```
def uppercase_decorator(func):
```

```
    def wrapper(text):
```

```
        return func(text).upper()
```

```
    return wrapper
```

```
def lowercase_decorator
```

```
    def wrapper
```

```
        return func(text).lower()
```

```
    return wrapper
```

```
@uppercase_decorator
```

```
    def shout(text):
```

```
        return text
```

```
@lowercase_decorator
```

```
    def shout(text):
```

```
        return text
```

```
def greet(func):
```

```
    greeting = func("Hi, I am created by a function  
    with an argument")
```

Output:-

HI, I AM CREATED BY A FUNCTION PASSED AS  
AN ARGUMENT.

hi, i am created by a function passed as an  
argument

greet (greeting).

greet (shout).

greet (whisper).

greet (greeting) is a function that takes a string as an argument and returns a string. It is a simple function that takes a string and returns a string. It is a simple function that takes a string and returns a string.

Result:-

VEL TECH	
EX NO.	7
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	
SIGN WITH DATE	15

Thus the Python Program to implement Python generator and decorators was successfully executed and the output was verified.