Loops
(while)


```
i = 1
while i <= 5:
    print(i)
    i = i + 1
print('Have a good day')
```

```
"C:\Users\Hiren Pa
1
2
3
4
5
Have a good day
```

```
i = 1
while i <= 5:
    print(i * '*')
    i = i + 1
print('Have a good day')
```

```
"C:\Users\Hiren Pa
*
**
***
****
*****
Have a good day
```

Loops
(while – simple program)


```
# Let us ask the user to make a guess (between 1 to 10) and s/he makes right guess, appropriate message should be printed
# We shall offer three attempts for the guess and s/he can't make the right guess, another appropriate message should be printed
private_number = 7
guessing_attempts = 3
guessing_counter = 0
while guessing_counter < guessing_attempts:
    my_guess = int(input('Guess a number : '))
    guessing_counter += 1
    if my_guess == private_number:
        print('Congratulations: You have made a right guess ! ')
        break
else:
    print('Sorry: You are run out of all the attempts...better luck next time')
```

```
"C:\Users\Hiren Patel\PycharmProjects\HelloWorld\venv\Scripts\pytho
Guess a number : 1
Guess a number : 2
Guess a number : 3
Sorry: You are run out of all the attempts...better luck next time
```

```
"C:\Users\Hiren Patel\PycharmProjects\HelloWorld
Guess a number : 1
Guess a number : 7
Congratulations: You have made a right guess !
```

Loops
(while – simple program)


```
# Write a menu driven program to turn a bulb ON/OFF
action = ''
bulb_status = False
while True:
    action = input(" : ").upper()
    if action == "ON":
        if bulb_status:
            print('Bulb is already ON')
        else:
            print('Turning ON the bulb....Bulb is ON now')
            bulb_status = True
    elif action == "OFF":
        if not bulb_status:
            print('Bulb is already OFF')
        else:
            print('Turning OFF the bulb....Bulb is OFF now')
            bulb_status = False
    elif action == "HELP":
        print('Valid Commands: ON, OFF, HELP, EXIT')
    elif action == "EXIT":
        break
print('Have a great day')
```

app | bulb

```
"C:\Users\Hiren Patel\PycharmProjects\HelloWor
 : help
Valid Commands: ON, OFF, HELP, EXIT
 : on
Turning ON the bulb....Bulb is ON now
 : on
Bulb is already ON
 : off
Turning OFF the bulb....Bulb is OFF now
 : off
Bulb is already OFF
 : exit
Have a great day

Process finished with exit code 0
```

Loops: Countdown Timer


```
import time
def countdown(t):
    while t:
        mins, secs = divmod(t, 60)
        print(mins, ":", secs)
        time.sleep(1)
        t -= 1
    print('Fire....')


t = input("Enter the time in seconds: ")
countdown(int(t))
```

```
Enter the time in
seconds: 10
0 : 10
0 : 9
0 : 8
0 : 7
0 : 6
0 : 5
0 : 4
0 : 3
0 : 2
0 : 1
Fire....
```

Loops
(for)

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```
for item in 'Python Coding':
    print(item)
```

```
P
y
t
h
o
n

C
o
d
i
n
g
```

```
for item in ['Hiren', 'Sanjay', 'Vijay', 'Pradip', 'Parimal']:
    print(item)
```

```
"C:\Use
0
1
2
3
4
5
6
7
8
9
```

```
"C:\Users\H
Hiren
Sanjay
Vijay
Pradip
Parimal
```

```
for item in [1, 2, 3, 4]:
    print(item)
```

```
"C:\Us
1
2
3
4
```

```
for item in range(10):
    print(item)
```

Loops
(for)


```
for item in range(5, 10):
    print(item)
```

```
app
"C:\Us
5
6
7
8
9
```

for.py

```
for item in range(5, 10, 2):
    print(item)
```

```
app
"C:\Us
5
7
9
```