Python Programming
While Loops 1

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Teaching, Training and Coaching since more than a decade!

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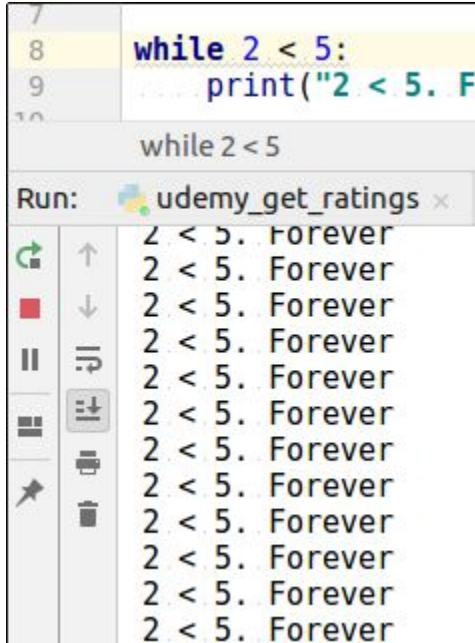Ex-(Software Engineer / ICPC World Finalist)

Loop

- Loop means circular.
- In our context, it is a way to command the computer to
  - **REPEAT** the same operations till we ask to **STOP**

Img

Recall if condition

```
3   if 2 < 5:
4       print("2 < 5. Printed once")
5
```

- This if statement is applied once
- What if we want it repeat forever?

Repeat forEVER

```
7
8    while 2 < 5:
9        print("2 < 5. F
```

while 2 < 5

Run: udemy_get_ratings ×

```
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
2 < 5. Forever
```

- While is same logic, but code goes as following
  - Line 8
  - Line 9
  - Line 8
  - Line 9
  - Line 8
  - Line 9
  - For ever
- Notice the red button
  - It means the program is still running!
  - We have to click it to force stop!
- What if wanna it STOP at some time?
  - Change while (condition)

Let's print first 5 numbers

```
1    x = 1
2
3    while x <= 5:
4        # end=' ': print space not \n
5        print(x, end=',')
6        x = x + 1
7
8    # output: 1,2,3,4,5,
```

- Body from lines 3 to 6 repeats as LONG as condition is true (x <= 5)
- Let's trace it
- 3 important parts
  - Line 1 = Initialization
  - Line 3 = Condition
  - Line 6 = increment step
- We call every step: an **iteration**
  - We iterate on ….

"Acquire knowledge and impart it to the people."

"Seek knowledge from the Cradle to the Grave."