

DATA SCIENCE COURSE TUTORIAL # 21

3.13 Loops in Python

Loops are used in Python to repeat a block of code multiple times. They help us avoid writing the same code again and again. Python mainly provides two types of loops: **for** loop and **while** loop.

for Loop

The **for** loop is used to iterate over a sequence (like a list, tuple, string, or range).

Example:

```
for i in range(5):  
    print(i)
```

Output:

```
0  
1  
2  
3  
4
```

Iterating over a string:

```
for char in "Python":  
    print(char)
```

Output:

```
P  
y  
t  
h  
o  
n
```

while Loop

The `while` loop runs as long as a condition is True.

Example:

```
count = 1
while count <= 5:
    print(count)
    count += 1
```

Output:

```
1
2
3
4
5
```

Difference between for and while

- Use `for` when you know how many times you want to repeat.
- Use `while` when you want to repeat until a condition becomes False.