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Published in Dev Genius

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Jul 13, 2022 · 6 min read · Listen

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4 Tricks To Enjoy For Loops in Python

Protips to enjoy looping Better.

Python Tips/Tricks by Infinite Loops, artstation.com

To enjoy using Python, use it to full potential.

I will share with you **4 fundamental tricks** so that you can enjoy programming as a pro.

If you follow these tips, then your code will be cleaner, shorter, faster.

• • •

1. Enumerate

You want to enumerate items, but you also want to **keep track of the indices.**

❌ **Bad practice below.**

So what you essentially decide is to iterate through the indices and use them to access the elements of your list.

We've all been there.

```
a = [1, 2, 3, 4, 5, 6, 7, 8]
for i in range(len(a)):
    item = a[i]
    print(item)
```

❌ Avoiding this for loops, it just looks ugly! ❌ view raw hideous.

Let's agree already : that's not classy.

You use one line of code just to access your item, and you call two built-in functions to go through the indices.

✅ **Good practice below.**

That's where the enumerate function comes in handy.

This built-in function (no import required) allows you to iterate through the indices and of your list at the same time.

```
a = [1, 2, 3, 4, 5, 6, 7, 8]
for i, item in enumerate(a):
    print(item)
```

✅ Avoiding this for loops, it just looks sexy! ✅ view raw hideous.

In the example above, you can access the index i and the corresponding element item simultaneously.

Isn't it sweet?

2. Zip

Now, let's assume that you've got **two lists,** and you want to loop over their elements at once.

❌ **Bad practice below.**

Again, the beginner approach consists of enumerating the elements of the lists and get their respective elements.

```
a = ['Banana', 'Strawberry', 'Orange', 'Apple']
b = ['Yellow', 'Red', 'Orange', 'Green']
for i in range(len(a)):
    item_a = a[i]
    item_b = b[i]
    print(item_a, item_b)
```

❌ Avoiding this for loops, it just looks ugly! ❌ view raw hideous.

Good exercise : How could you use a zip to replace the enumerate function I've shown you before? (*hint: enumerate remains the best option anyway*)

✅ **Good practice below.**

Now, let your iterators take over the parts of the form (**item_value**) obtained by joining a and b.

The elements of this iterator are ('Banana', 'Yellow'), ('Strawberry', 'Red'), etc.

```
a = ['Banana', 'Strawberry', 'Orange', 'Apple']
b = ['Yellow', 'Red', 'Orange', 'Green']
for item_a, item_b in zip(a, b):
    print(item_a, item_b)
```

✅ Avoiding this for loops, it just looks sexy! ✅ view raw hideous.

Using the **zip**() function, you will be able to see progress bars whenever you run the loop.

The only thing you have to do is to wrap your iterator with "tqdm(", and you'll see a nice progress bar showing you the progress of your for loop.

4. Sorted/Reversed

Oftentimes will be tempted to change the order of the elements you're looping over.

✅ **Good practice below.**

In such cases, I recommend using **sorted** if you want to sort your elements, or **reversed** if you want to reverse the order of your elements.

As for **enumerate** and **zip**, those are built-in functions, so you don't have to worry about imports. They're already here for you. Just use them.

```
a = [1, 2, 3, 4, 5, 6, 7, 8]
for i in reversed(a):
    print(i)
```

✅ Avoiding this for loops, it just looks sexy! ✅ view raw hideous.

Though **sorted** is a great function that returns the input object after sorting it, you have to be careful when it comes to **reversed**.

reversed does not behave like **sorted**.

It outputs an **iterator**.

Here's why it's...

- **Good** : you can use *reversed* on **dictionaries**, for instance. Whereas doing the usual slicing trick "[::-1]" to reverse the elements would not work on a dictionary.
- **Bad** : you cannot use *reversed* to get a **sorted** version of your input. What you'll get instead is a sorted iterator (so not a list, an array, nor a dictionary).

Conclusion

Now, you know how to use

- **enumerate**
- **zip**
- **tqdm**
- **sorted** and **reversed.**

To use these gems and make your code shine.

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