

Day 5

For loop

```
for item in list-item:  
    # do this.
```

eg. `fruits = ["Apple", "Peach", "Pear"]`
`for fruit in fruits:`
 `print(fruit)`

A **for** loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

This is less like the **for** keyword in other programming languages and works more like an iterator method.

With the **for** loop we can execute a set of statements, once for each item in a list, tuple, set, etc.

• The **for** loop does not require an indexing variable to set beforehand.

→ Looping through a string.

→ strings are iterable objects, they contain a sequence of characters.

```
for x in 'banana':  
    print(x)
```


The range() Function.

To loop through a set of code a specified number of times, we can use the range() function.

- The range() function returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and ends at a specified number.

→ Using the range() function:

```
for x in range(6):  
    print(x)
```

• Note.

range(6) is not the value of 0 to 6, but the values 0 to 5.

The range() function default to 0 as a starting value however it is possible to specify the starting value by adding a parameter.

range(2, 6) → which means values from 2 to 6 (but not including 6).

- The range() function defaults to increment the sequence by 1, however it is possible to specify the increment value by adding a third parameter

range(2, 30, 3)

→ 2, 5, 8, 11, ...

Exercise - 5.1 Average height Exercise

```
st-height = input("Input a list of student heights").split()
for n in range(0, len(st-height)):
    st-height[n] = int(st-height[n])

print(st-height)

sum = 0
len = 0

for n in range(0
for n in st-height:
    len += 1
    sum += n

Avg = sum / len
Avg = round(Avg)
print("The total Average height: " + Avg)
```

Exercise - 5.2 Highest Score

```
student-scores = [ ]
highest-score = 0

for score in student-scores:
    if score > highest-score:
        highest-score = score

print(f"The height score in the class is: {highest-score}")
```


Exercise - 5.3

Adding Evens.

total = 0

for number in range(1, 101, 2):

print(number)

total += number

← print(total)

starting point

ending point one place before so for 100 we used 101

we have increment by 2 for only getting even numbers.

Other way to do:

total2 = 0

for number in range(1, 101)

if number % 2 == 0:

total += number

← print(~~number~~ total)

Beside using increment we checked the value which are divisible by 2 completely and adding only those to total.

Exercise - 5.4

Fizz Buzz

for n in range(1, 101):

if n % 3 == 0:

print("Fizz")

elif ~~n % 3 == 0~~ n % 5 == 0:

print("Buzz")

elif 'n % 3 == 0 and n % 5 == 0':

print("FizzBuzz")

else:

print(n)

well it has a bug

for like number 15.

it will print (fizz and exit).

So, we have to change the order of condition.

```
if n%3 == 0 and n%5 == 0:  
    print("Fizzbuzz")
```

```
elif n%3 == 0:
```

```
elif n%5 == 0
```

```
else:
```

```
    print(n)
```

Project — PyPassGenerator

```
Alphabets = [ ]
```

```
letters = [ ]
```

```
symbols = [ ]
```

```
password = ""
```

```
print("welcome")
```

Fare chart and code
in repository.

```
nr_letters = int(
```

```
nr_symbols = int(
```

```
nr_numbers = int(
```

```
Letter, Symbol, number
```

```
for letter in range(0, nr_letters+1):
```

```
    letters = random.choice(letters)
```

```
for symbol in range(0, nr_symbols+1):
```

```
    letter = symbol = nr_symbols random.choice(symbols)
```

```
for Alphabets in range(0, nr_numbers)
```