Python cheatsheet (the basics)

**Interact with the user (input and output)**

Print a message

```python
print('Hello, world!')
```

Print multiple values (of different types)

```python
ndays = 365
print(f'There are {ndays} days in a year')
```

Asking the user for a string

```python
name = input('What is your name? ')
```

Asking the user for a whole number (an integer)

```python
num = int(input('Enter a number: '))
```

**Decide between options**

Decide to run a block (or not)

```python
x = 3
if x == 3:
    print('x is 3')
else:
    print('fail')
```

Decide between two blocks

```python
mark = 80
if mark >= 50:
    print('pass')
else:
    print('fail')
```

Decide between many blocks

```python
mark = 80
if mark >= 65:
    print('credit')
elif mark >= 50:
    print('pass')
else:
    print('fail')
```

**String manipulation**

Compare two strings

```python
msg = 'hello'
if msg == 'hello':
    print('howdy')
else:
    print('n-z')
```

Less than another string?

```python
if msg < 'n':
    print('a-m')
else:
    print('n-z')
```

Is a character in a string?

```python
'e' in msg
```

Is a string in another string?

```python
'ell' in msg
```

Change string case

```python
msg = 'Hello'
msg.upper()
msg.lower()
```

Count a character in a string

```python
msg.count('l')
```

Replace a character or string

```python
msg.replace('l', 'X')
```

Delete a character or string

```python
msg.replace('l', '')
```

Check string case

```python
msg.isupper()
msg.islower()
msg.istitle()
```

**Text (strings)**

**Single quoted**

'perfect'

**Double quoted**

"credit"

**Multi-line**

```
'Hello, World!'
```

Add (concatenate) strings

'Hello' + 'World'

Multiply string by integer

'Echo...'*4

Length of a string

len('Hello')

Convert string to integer

int('365')

**Variables**

Creating a variable

```python
temp_in_c = 25
```

Using a variable

```python
temp_in_c*9/5 + 32
```

**Whole numbers (integers)**

Addition and subtraction

```python
365 + 1 - 2
```

Multiplication and division

```python
25*9/5 + 32
```

Powers (2 to the power of 8)

```python
2**8
```

Convert integer to string

```python
str(365)
```

**Repeat a block (a fixed number of times)**

Repeat a block 10 times

```python
for i in range(10):
    print(i)
```

Count from 0 to 9

```python
range(10)
```

Sum the numbers 0 to 9

```python
total = 0
for i in range(10):
    total = total + i
print(total)
```

Count from 1 to 10

```python
range(1, 11)
```

Repeat a block over a string

```python
for c in 'Hello':
    print(c)
```

Count from 10 down to 1

```python
range(10, 0, -1)
```

Keep printing on one line

```python
for c in 'Hello':
    print(c, end='')
```

Count down 2 at a time

```python
range(10, 0, -2)
```

Repeat a block over list (or string) indices

```python
msg = 'I grok Python!'
for i in range(len(msg)):
    print(i, msg[i])
```

Count down 2 at a time

```python
range(10, 0, -2)
```

**Putting it together: Celsius to Fahrenheit converter**

Ask the user for a temperature in degrees Celsius

```python
temp_in_c = int(input('Temp. in Celsius? '))
```

Calculate the conversion

```python
temp_in_f = temp_in_c*9/5 + 32
```

Output the result

```python
print(f'{temp_in_f} Fahrenheit')
```

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Learn more in Python for Beginners @ grok.ac/pycheat