**Python 3 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('There are', ndays, '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: '))
  ```

**String manipulation**
- Compare two strings
  ```python
  msg = 'hello'
  if msg == 'hello':
    print('howdy')
  ```
- 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
  ```
- Convert to uppercase
  ```python
  msg.upper()
  ```
- Also lowercase and title
  ```python
  msg.lower()
  msg.title()
  ```
- 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', '')
  ```

**Decide between options**
- Decide to run a block (or not)
  ```python
  x = 3
  if x == 3:
    print('x is 3')
  ```
- 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')
  ```
- `elif` can be used without `else`
- `elif` can be used many times

**Variables**
- Creating a variable
  ```python
  celsius = 25
  ```
- Using a variable
  ```python
  celsius*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)
  ```
- Count 2 at a time to 10
  ```python
  range(0, 11, 2)
  ```
- 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
  celsius = int(input('Temp. in Celsius: '))
  ```
- Calculate the conversion
  ```python
  fahrenheit = celsius*9/5 + 32
  ```
- Output the result
  ```python
  print(fahrenheit, 'Fahrenheit')
  ```

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