**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: '))
  ```

### 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')
  ```

### String manipulation

- **Compare two strings**
  ```python
  msg = 'hello'
  if msg == 'hello':
      print('howdy')
  ```

- **Convert to uppercase**
  ```python
  msg.upper()
  ```

- **Less than another string?**
  ```python
  if msg < 'm-z':
      print('a-m')
  ```

- **Is a character in a string?**
  ```python
  'e' in msg
  ```

- **Is a string in another string?**
  ```python
  'hello' in msg
  ```

### Text (strings)

- **Single quoted**
  ```python
  'perfect'
  ```

- **Double quoted**
  ```python
  "credit"
  ```

- **Multi-line**
  ```python
  "'Hello, World!'"
  ```

- **Add (concatenate) strings**
  ```python
  'Hello' + 'World'
  ```

- **Length of a string**
  ```python
  len('Hello')
  ```

- **Convert string to integer**
  ```python
  int('365')
  ```

### 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)
  ```

### Variables

- **Creating a variable**
  ```python
  celsius = 25
  ```

- **Using a variable**
  ```python
  celsius*9/5 + 32
  ```

### 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)
  ```

- **Count from 10 down to 1**
  ```python
  range(10, 0, -1)
  ```

- **Count 2 at a time to 10**
  ```python
  range(10, 0, -2)
  ```

- **Count from 0 to 9**
  ```python
  range(0, 11, 2)
  ```

- **Count 2 at a time**
  ```python
  range(0, 11, 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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