Python 3 Cheat Sheet

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Data Types

Integer	22, -10, 99
Float	2.2, 42.3, -1.1
String	"Hello", 'single quotes also works'
Boolean	True, 1, False, 0
List	[value, value value, …]
Tuple	(value, value, value, …)
Dictionary	{key:value, key:value, …}

Operators

x+y	Addition
x-y	Subtraction
x*y	Multiplication
x/y	Division
x%y	Modulo
x**y	Exponentiation

Conditions

<	Less than
>	Greater than
==	Equals
<=	Less than or equal to
>=	Greater than or equal to
!=	Not equal to
in	Contains
not in	Does not contain

Output

```
print("Hello Alta3 Research")
print("Hello","Alta3 Research")
name = "Alta3 Research"
print("Hello", name)
print("Hello {}".format(name))
print()  # generate empty line
         # and a break line
```

Common Functions

int()	Force an integer data type
float()	Force a float data type
str()	Force a string data type
input()	Collect user input
len()	Returns the length
min()	Returns the minimum value
max()	Returns the maximum value
list()	Converts to a list
type()	Returns the data type (string, float, int, etc…)

Error Handling

```
try:
    # this code will execute
except:
    # but on an error
    # this code executes
```

Shebang

```
#!/usr/bin/env python3
```

Defining Functions

```
def a3funct(param1, param2):
    magic = param1 + param2
    return magic
```

if, else if, else

```
if (condition):
    # This code will execute
elif (condition):
    # This code will execute
else:
    # This code executes
```

for and while Loops

```
# for-loop
myIterator = [1,2,3]
for x in myIterator:
    print(x)

# while-loop
x = 0
while x < 5:
    print("x: {}".format(x))
    x += 1 # same as x = x+1
```

Docstrings & Comments

```
"""
Docstrings can be
Multi-line
"""

# Always comment code
```

Running External Programs

```
# Issue command(s) to
# underlying OS
import os
os.system(<command>)
```

Reading and Writing Files

```
# read from a file
f = open(<path>,'r')
f.read(<size>)
f.readline(<size>)
f.close()

# write to a file
g = open(<path>,'w')
g.write(<str>)
g.close()
```