**Python 1 Cheatsheet**

**Operators**

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| **Symbol** | **What it does** | **Example** |
| + | addition | 5 + 5 |
| - | subtraction | 5 - 5 |
| \* | multiplication | 5 \* 5 |
| / | division | 5 / 5 |
| \*\* | exponent | 5\*\*5 (5 to the fifth power) |
| % | modulus (remainder) | 5 % 2 (results in 3) |
| ==, is | Equals | 5 == 5 results in True  9 is 9 results in True  5 is 7 results in False |
| !=, is not | Not equals | 5 != 5 results in False  5 is not 7 results in True |
| > | Greater than | 5 > 6 results in False  11 > 6.23 results in True |
| >= | Greater than or equal to | 5 >= 4 results in True |
| < | Less than | 4 < 5 results in True |
| <= | Less than or equal to | 4 <= 5 results in True |

**Variable types**

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| **Variable Type** | **Description** | **Casting** | **Examples** |
| integer | whole number | int() | 5, -11, 0 |
| float | decimal number | float() | 9.57, -0.2, 110.24, 4. |
| string | ordered, immutable character container | str() | "word", "lots of words", "words and numbers 582 29 in quotes" |
| list | ordered, mutable container | list() | [1,2,3,4] ; ["hi", "bye", 9, -22.1] |
| dictionary | unordered, mutable container (associative array) | dict() | {"key1":"value1", 9: "three-squared"} |
| tuple | ordered, immutable container | tuple() | (4, 9) ; ("word1", "word2", "word3") |

**Useful string methods**

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| **Method** | **Description** | **Example** |
| .upper() | converts to upper case | hi = "my string"  hi.upper() returns "MY STRING" |
| .lower() | converts to lower case | hi = "My String"  hi.lower() returns "my string" |
| .split() | split a string on a value into a list | hi = "comma,separated,values,in,the,string"  hi.split(",") returns ['comma', 'separated', 'values', 'in', 'the', 'string'] |
| .strip() | removes leading/trailing whitespace/value | hi = "my string"  hi.strip() returns "my string" (there was no leading/trailing whitespace!)  hi.strip("g") returns "my strin" |
| .count() | count instances of a character in a string | hi = "my letterful string"  hi.count("t") returns 3 |
| .replace() | replace all instances of a value | hi = "silliness"  hi.replace("s", "5") returns "5illine55" |

**Useful list methods**

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| **Method** | **Description** | **Example** |
| .append() | Add value to the end of a list | my\_list.append(5) |
| .insert() | Add value to a specific index in a list | my\_list.insert(5, "index #5 will be this string") |
| .remove() | Remove all occurrences of a particular value from a list | my\_list.remove(5) |
| .index() | Determine the index of a particular list value | my\_list.index(5) |

**Useful dictionary methods**

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| **Method** | **Description** | **Example** |
| .keys() | Return a list of all keys in a dictionary | my\_dict.keys() |
| .values() | Return a list of all values in a dictionary | my\_dict.values() |
| .items() | Return a list of (key,value) tuples from a dictionary | my\_dict.items() |