

Intermediate Python Reference Sheet

Integers and Strings

```
number = 4      # This is an integer
name = "Alice"  # This is a string
```

Maths Operations in Python

```
a = 7 + 3      # Addition
b = 5 - 1      # Subtraction
c = 4 * 6      # Multiplication
d = 8 / 2      # Division
```

Converting between Strings and Integers

```
a = int("1")   # String to integer
b = str(2)     # Integer to string
```

Modifying the Contents of a Variable

```
likes = likes + 1 # Increase `likes` by 1
likes = likes - 1 # Decrease `likes` by 1
```

if, elif and else

```
if name == "Alice":
    print("Have you been to Wonderland?")
elif name == "Bob":
    print("Can we fix it? Yes we can!")
elif name == "Charlie":
    print("I love chocolate!")
else:
    print("Nice to meet you, " + name)

# only ONE of these options will run
# if more than one are True, the first
# one that is true will be run
```

Boolean Variables and Expressions

```
keep_going = True      # this is True
name_match = False     # this is False
print(1 + 1 == 2)      # will print True
print(2 + 2 == 3)      # will print False
```

Repeating Code (while Loops)

```
keep_going = True      # flag variable

while keep_going == True:
    password = input("Enter your PIN:")

    if password == "1234": # nested IF
        keep_going = False # update flag

print("Welcome inside!") # exited loop
```

Comparison Operators

```
a < b    # a is less than b
c > d    # c is greater than d
e <= f   # e is less than OR equal to f
g >= h   # g is greater than OR equal to h
```

Generating Random Numbers

```
from random import randint # required

number = randint(1,10) # generates a
                        # random number
                        # between 1 and 10
```

String Functions

```
name.isupper() # True if name contains
               # all upper case letters

name.islower() # True if name contains
               # all lower case letters
```

in and or Operators

```
"Alice" in name # True if "Alice" is  
                # contained in `name`
```

```
"Alice" in name or "Bob" in name
```

```
# True if "Alice" is contained in `name`
```

```
# OR if "Bob" is contained in `name`
```