

## CHEATSHEET PYTHON 3: Functions

# How to define a function

```
def function_name(argument1, argument2):  
    """  
        Docstrings explain the usage of a function, including the arguments  
it takes  
        and the value(s) it returns. The more detailed the better!  
    """  
    # code  
    # code  
    return x # function returns "x" to the main body of script
```

# Example function

```
def divide_key(x, y, print_remainder = False):  
    """  
        Divide two numbers, x and y. Returns the dividend of x/y.  
        Takes two required positional arguments, numbers x and y, and the  
        optional keyword argument "print_remainder" (default False).  
        If specified as True, then the remainder of the dividend is printed.  
    """  
    # Think about why this "if" statement is included...  
    if y == 0.:  
        print "Cannot divide by 0."  
        return None  
    if print_remainder:  
        print "The remainder is %d" %(x%y)  
    return float(x) / y
```

# Example function, re-written with a try/except statement instead of if

```
def divide_key(x, y, print_remainder = False):  
    try:  
        div = float(x) / y  
    except:  
        div = None  
  
    if print_remainder:  
        try:  
            print "The remainder is %d" %(x%y)  
        except:  
            print "The remainder could not be calculated."  
    return div
```