# Python Cheat Sheet Cheat Sheet

by primmito via cheatography.com/25788/cs/6920/

## Vocabulary

| | |
|---|---|
| Variables | a value that can change, depending on conditions or on information passed to the program. |
| String | list of characters, symbols and could also have numbers. |
| Syntax | structure of a program. |
| Print | to display a value on the screen |
| Loop | when the instructions repeat over and over. |
| Integer Number | Whole number/ counting number |
| Float Number | The number in decimal |
| Modulo | Used to finds the remainder |
| Boolean | True/False |
| List | Writing consecutive words, numbers down, one below the other in [] |
| Algorithm | A list of steps to finish something. Instructions that can be performed with or without a computer. |
| Code | Commands created to allow computer to perform the functions. |

## Addition

| | |
|---|---|
| string + string | Combines that strings together (squished together) |
| string + number | Crash! |
| number + number | Addition (Math) |

## Random List

```
import random
intlist = [1,2,3 ,4,5]
random_int = random.ch oic e(i -
ntlist)
print (intlist, random _int)
fplist = [1.0,2.0, -
3.0 ,4.0 ,5.0]
random_fp = random.choice
(fplist)
print (fplist, random_fp)
strlist = ["ca ndy ", " mar -
shm ell ow", " ice cre am", " -
lol lip op"]
random_str = random.choice
(strlist)
print (strlist, random _str)
mylist =[1,2,3, 5.0,6.0 ,7.0,
" Can dy", " Ice cre am", " -
Gum myb ear s"]
random _item = random.choice
(mylist)
print (mylist, random _item)
myvar1 = 1
myvar2 = 2
myvar3 = 3
varlist = [myvar1, myvar2,
myvar3]
random_var = random.choice
(varlist)
print (varlist, random _var)
```

## Counting Down

```
while True:
        use r_n umber = input
("Enter a number ")
        number = int (user_ -
number)
        cou ntd own _string =
" "
        while number > 0:
                cou ntd own -
_string = countd own _string +
str(nu mber)
                number = number
- 1


        print (count dow n_s -
tring)
```

## Returning largest value

```
#write a function that returns
the largest of two values
# name: max2
# arguments: num1, num2
#return: the largest value
def max2 (num1, num2):
        max value = num1
       if num2 > maxvalue:
          max value = num2
        return maxvalue
print (max2 (2,3))
print (max2 (2,99))
print (max2 (2,55))
#write a function that returns
the largest of three values
# name: max3
# arguments: num1, num2, num3
#return: the largest value
```

## Area of Triangle

```
#write a function
#name: areaof Tri angle
#param eter: base height
#return: area
def areaof Tri angle (base,
height):
        return ba/se*height
user_base= float( inp ut( " -
Enter the base of the triangle:
"))
user_h eight= float( inp ut( " -
Enter the height of the
triangle: "))
#function call
print ("The area of the triangle
is", areaof Tri angle (user_ -
base, user_h eight))
```

## Function

| | |
|---|---|
| float() | Change number to be decimal number. |
| print() | Show information that you want on the screen. |
| int() | Change the number/string into a integer. |
| str() | A list of number, letter and symbols. |
| input() | Gain information from user. |
| len() | The length of the string |

## returning largest value continue

```
def max3 (num1, num2, num3):
        max value = num1

       if maxvalue < num2:
                max value = num2
       if maxvalue < num3:
                max value = num3
        return maxvalue
print (max3 (8,4,3))
#write a function that returns
the largest number in the list
#name : maxlist
#argument: list
#return: the largest value in
the list
```

## Output

```
x = false
print (x and True or 1 ==1)
#OUTPUT = TRUE
```

## Ask input from user

```
user_input = input("Enter a
number:")
user_input = int (user_ input)
print (user_ inp ut*5)
```

## mylist, print all item using loop

```
mylist = [1,2,3]
for item in mylist:
        print (item)
```

## Area of Circle

```
def areaOfCircle (r): #r=radius
       pi = 3.1415
       area = pi *2
        return area
user_r adius = input ("Enter the
radius :")
radius = float( use r_r adius)
print ("The area of the circle
is", areaOf Cir cle (ra dius))
```

## Receives number from user. State if Neg,Pos,Zero

```
while True:
        use r_input = input
("Enter a number: ")
        use r_input = int(us -
er_ input)
       if user_input > 0:
                print (user_ -
input, "is positi ve." )
       elif user_input < 0:
                print (user_ -
input, "is negati ve." )
       elif user_input == 0:
                print (user_ -
input, "is zero.")
```

## F

```
def myprint (text): #text is
(something your giving to the
function) an argument (param -
eter) to the function
        print" #"str(text) +
"")
        return #This exits the
function
myprint(1)
myprin t(2.5)
myprint ("he llo ")
```

## F (cont)

```
> def myprint2 (text, decoration):
    print (decoration + text + decoration)
    return
myprint2 ("hello", "+++")
myprint2 ("hello", "_=_=_=")
myprint2 ("hello", ">>>>>>")
def double (number):
    return number * 2 #return value
print(double(2))
myvar = double(double(3)) #same as
double (6) because double(3) == 6
print(myvar)
```

## Countdown Machine

```
user_number = input("What number
do you want to count down?")
number = int(us er_ number)
countd own _string = ' '
while number > 0:
countd own _number =count dow -
n_s tring + str(nu mber) + " "
number = number -1
#print (nu mber)
print (count dow n_s tring)
```

## Multiplication and Exponents

| | |
|---|---|
| string * number | Combines that string in the amount of numbers. |
| string *string | Crash! |
| number * number | Multiple (Math) |
| string **string | Crash! |
| number ** number | Exponent (Math) |
| string ** number | Crash! |

## Volume Of Prism

```
#Write the function compute
volume of prism
#name: volume rOf Prism
#Param eter: base, height,
prism_ height
#return volume
def volume OfPrism (base,
height, prism_ hei ght):
        #area * prism_ height
        volume = areaOf Tri -
angle (base, hei ght)* prism_ -
height
        return volume
user_p ris m_h eight = float( -
inp ut( " Enter the prism
height: "))
print ("The volume of the prism
is", volume OfPrism (user_ base,
user_h eight, user_p ris m_h -
eight))
```

## Operations

```
def sum(a,b):
        return a + b
def product (a,b):
        return a * b
def diff (a,b):
        return a - b
def div (a,b):
       if b != 0:
                return a // b
        else:
                print ("Er -
ror ")
def calc(num1, num2, operat -
ion):
       if operation == " sum ":
                return sum
(num1, num2)
       elif operation == " pro -
duc t":
                return product
(num1, num2)
       elif operation == " dif -
f":
                return diff
(num1, num2)
       elif operation == " -
div ":
                return div
(num1, num2)

print (calc(1,2, " sum "))
print (calc(4,2, " dif f"))
print (calc( 10,0, " div "))
print (calc( 2,12, " pro duc -
t"))
```

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## Function

```
#how to create a function 1
def Nameof Fun ction (myvar1,
myvar2):
        print ("he llo ")
        return myvar1, myvar2
#function call
Nameof Fun ction (2, 3)
#Code above, prints only hello
#2
def Nameof Fun ction (myvar1,
myvar2):
        print ("he llo ")
        return myvar1 + myvar2
#function call
Nameof Fun ction (2, 3)
myanswer = Nameof Fun ction
(4,1)
print (myanswer)
#code 2 prints out hello hello
and 5
```

## Print all even numbers from -100 to -1. While loop

```
mynum = -100
while mynum <-1:
        print (mynum)
        mynum= mynum + 2
```

## Reverse Word

```
while True:
       word = input( " Please
enter a word: ")
        index = 0
        reverse = ''
        while index < len(word):
```

## Reverse Word (cont)

```
>       reverse = word[index] + reverse
      index = index + 1
      print ("Reverse ", reverse)
```

## Examples

```
print (2) - integer
print (2.5) - floating point
print ("He llo ") - string
print (mystr) - variable
print (mystr, " hi", 2,1,0) - -
commas
mystr = " Hi"
mystr - name
" Hi" - value can change
print (int(1.5)) - 1
print (int ("2") - 2
print (float (1)) - 1.0 anything
to a float
```

## Naming Convention

```
Rules for giving names
- letters
- numbers (Can't be the first
letter)
- underscore _
Valid
- _mystr
- my3
- Hello_ there
Invalid name
- 3my="hi " -- cannot start with
number
-firstname ="hi "
```

## Naming Convention (cont)

```
> = first-name
```

## returning largest value continue2

```
def maxlist (list):
        max value =(list[0])
       for item in list:
               if maxvalue <
item:
                       max -
value = item
        return maxvalue
print (maxli st( ran ge( 0,1 -
23)))
```

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