Cheatography

Python Cheat Sheet

by Gameniti via cheatography.com/25846/cs/6959/

Vocabulary

Variable	Holds a value and can be change
String	a list of characters such as numbers, letters, symbols
Integer number	Whole number/counting number
Float number	Number in decimal
Syntax	Grammar/Structure of language
Boolean	True/False
length	the length of the string

Function

Print()	Show information that you want on screen
Int()	Change number to be number integer
input()	receives info from the user
str()	converts the value to a string
float()	converts the value to a floating point
len()	The length of the string
#	comment,no effect
'''	Multi-line comment

Multiplication and Exponents

string * number	stringsting...(number)
string* string	Fail!!
number * number	Multiply
string ** string	Fail!!
number ** number	Exponent
string ** number	Fail!!

Convert to Binary String

```
user_number = ''

while user_name != ''
user_number = input("Enter a number to convert to binary")
number = int(user_number)
binary_string = ''

while (number > 0)
remainder = number%2
binary_string = str(remainder)+binary_string
number = number//2

print ("Binary string is", binary_string)
```

Simple Function

```
def printdefinitions(word):
    if word == ("variable"):
        print ("""A variable is the value that can change""")
    elif word == ("function"):
        print ("""A function is the blog of code that can be reused""")
    elif word == ("parameter"):
        print ("""A parameter is something given to the function""")
    elif word == ("agrument"):
        print ("""An agrument is something given to the function""")
    elif word == ("string"):
        print ("""A string is a lsit of characters""")
    elif word == ("function call"):
        print ("""A function call makes your function run""")
    else:
        print ("Unknown word")
    return
while True: #keep the loop go forever
    user_input = input("Enter word: ")

    printdefinitions(user_input)
```

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Simple Function

```
def printdefinitions(word):
    if word == ("variable"):
        print ("""A variable is the value that can change""")
    elif word == ("function"):
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    elif word == ("string"):
        print ("""A string is a lsit of characters""")
    elif word == ("function call"):
        print ("""A function call makes your function run""")
    else:
        print ("Unknown word")
    return
while True: #keep the loop go forever
    user_input = input("Enter word: ")

    printdefinitions(user_input)
Enter word: hello
```

Simple Function (cont)

```
Unknown word
Enter word: function
A function is the blog of code that can be reused
Enter word: variable
A variable is the value that can change
Enter word:
area/volume of
```

Symbols

==	equal to
!=	not equal to
<	less than
<=	less than or equal to
>	greater than
>=	greater than or equal to
+	add
-	subtract
*	multiply
/	divide and quotient is float
//	divide and quotient is integer
**	exponent
%	modulo: the remainder

Addition

string + string	combine together
string + number	Fail
number + number	plus
number - number	minus

Sample code

```
mystr = "hellp THERE"
print (mystr.upper()) -all letters will become big HELP THREE
print (mystr.lower()) -all letters will become small help three
print (mystr.capitalize()) -First letter of first word will become big Help three
print (mystr.title())- first letter of each words will become big Help Three
```

Example

Print (2) – integer
Print (2.5) – floating point
Print (“Hello”) – 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

Modulo/Remainder %
print (4%2) → 0
print (30%7) → 2

Area of the circle

```
def areaOfCircle(r):
pi = 3.1415
area = pir*2
return area
user_radius = float (input("Enter the radius: "))
print ('The area of the circle
is',areaOfCircle(user_radius))
```

MaxValue

```
def max2(num1,num2):
    maxvalue = num1
    if num2 > maxvalue:
        maxvalue = num2

    return maxvalue
print (max2(4,5))
print (max2(33,5))
def max3(num1,num2,num3):

    maxvalue = num1
    if num2 > maxvalue:
        maxvalue = num2
    if num3 > maxvalue:
        maxvalue = num3

    return maxvalue
print (max3(1,2,3))
5
33
3
```

Maxlist

```
def maxlist(list):
    maxvalue = list[0]
    for item in list:
        if item > maxvalue:
            maxvalue = item
    return maxvalue
mylist = [1,2,3,4,55,66,777,0,1]
print(maxlist(mylist))
777
```

Naming Conventions

```
Rule for giving name
-letter
-numbers
-underscore_
Valid name
- _myStr
- my3
- Hello_there
Invalid name
- 3my="hi" -- cannot start with
number
- first name = "hi"
- first-name
- first+name
```

Capital letter

```
name = "tim GIRARD"

print (name.upper()) → TIM GIRARD
print (name.lower()) → tim girard
print (name.capitalize()) → Tim girard
print (name.title()) → Tim Girard
```

circle area

```
def areaofcircle(radius):
    if radius <= 0:
        return "Error: invalid
raadius"
    pi = 3.1415
    area = pi (radius*2)
    return area
user_radius = float(input("Enter
the radius: "))
print('The area of the circle is',
areaofcircle(user_radius))
Enter the radius: 2
The area of the circle is 12.566
Enter the radius: 0
The area of the circle is Error:
invalid raadius
```

Countdown Number

```
user_number = input("Please enter the
number")
number = int(user_number)
countdown_string = ""
while number>0:
countdown_string = countdown_string +
str(number)
number = number - 1
print (countdown_string)
```

Palindrome

```
def isPalindrome(word):
    reverse = ""
    letter_num=0
    while
letter_num<len(user_input):
        reverse =
user_input[letter_num]+reverse
        letter_num = letter_num+1
    if reverse==word:
        return True
    else:
        return False

while True :
    user_input = input("Enter a
word")
    if user_input == "quit":
        break

    isPal =
isPalindrome(user_input)

    if isPal == True:
        print (user_input,'is
parindorm')
    else:
        print (user_input,'is not
parindorm')
        break
Enter a word113311
113311 is parindorm
Enter a word123
123 is not parindorm
Enter a wordquit
```

Short word per line

```
mystr = "Hello"
letter_num = 0
while letter_num < len(mystr):
         print (mystr[letter_num])
         letter_num = letter_num +
1
H
e
l
l
o
```

Basic Function

```
def myprint(text):
    print ("*" + str(text) + "*")
    return
myprint("opal")
hello it's bacon
opal
def myprintnew(text, decoration):
    print (decoration + str(text)
+ decoration)
    return
myprintnew("opal", "m")
hello it's bacon
opal
mopalm
def doubleit(number):
```

Basic Function (cont)

```
    return number * 2
print (doubleit(3))
print (doubleit(doubleit(4)))
hello it's bacon
opal
mopalm
6
```