

Functions

print()	displays information on the screen.
input()	receives information from the user.
int()	converts a value to an integer.
float()	change number to be decimal number.
str()	a list of number, letter and symbols.
len()	the length of the string.
#	Comment or no effect
long (long integers)	Also called longs, they are integers of unlimited size, written like integers and followed by an uppercase or lowercase L.
complex (complex numbers)	are of the form $a + bJ$, where a and b are floats and J (or j) represents the square root of -1 (which is an imaginary number). The real part of the number is a , and the imaginary part is b . Complex numbers are not used much in Python programming.

Code

```
name = "noey RAWIDA"
print (name.upper())
print (name.lower())
print (name.capitalize())
print (name.title())
```

Conditional

if	A statement that the writer given a condition
else	A statement that can be combined with an if statement.
elif	A statement that allows you to check multiple expressions for TRUE and execute a block of code as soon as one of the conditions evaluates to TRUE.
while	A statement that acting resembles like a loop.

Number to Binary Code

```
mystring = "hello"
print (mystring)
firstname = input( "what is your first name?")
lastname = input( "what is your last name?")
fullname = firstname + " " + lastname
print (fullname)
letter number = int(input( "what is letter number? " ))
if letter number >len(fullname):
    print ( " invalid letter number, try again! " )
else:
    letter = ( fullname[ letter number] )
    print (letter)
```

Number to Binary Code (cont)

```
> numberletter = int(input( "how many times to print letter " ))
if numberletter >100:
    print ( " too many letters to print! " )
else:
    print (letter * numberletter )
```

Number to Binary Code

```
mystring = "hello"
print (mystring)
firstname = input( "what is your first name?")
lastname = input( "what is your last name?")
fullname = firstname + " " + lastname
print (fullname)
letter number = int(input( "what is letter number? " ))
if letter number >len(fullname):
    print ( " invalid letter number, try again! " )
else:
    letter = ( fullname[ letter number] )
    print (letter)
    number letter = int(input( "how many times to print letter " ))
    if number letter >100:
        print ( " too many letters to print! " )
    else:
        print (letter * number letter )
```

Random Code

```
import random

mylist = ['Dog', 'Fish', 'Cat', 'Bear']

counter = 0

while counter < 10:
    random_item = random.choice(mylist)
    print(random_item)
    counter = counter + 1
```

Python Identifier

Definition is a name used to identify a variable, function, class, module or other object. An identifier starts with a letter A to Z or a to z or an underscore (_) followed by zero or more letters, underscores and digits (0 to 9).

Python Assignment Operators

Operator	Description	**E
----------	-------------	-----

Python Assignment Operators

Operator	Description	Example
=	Assigns values from right side operands to left side operand	c = a + b assigns value of a + b into c
+=Add AND	It adds right operand to the left operand and assign the result to left operand	c += a is equivalent to c = c + a

Python Assignment Operators (cont)

--Subtract AND	It subtracts right operand from the left operand and assign the result to left operand	c -= a is equivalent to c = c - a
*=Multiply AND	It multiplies right operand with the left operand and assign the result to left operand	c = a is equivalent to c = c * a

/=Divide AND	It divides left operand with the right operand and assign the result to left operand	c /= a is equivalent to c = c / a
--------------	--	-----------------------------------

%=Modulus AND	It takes modulus using two operands and assign the result to left operand	c %= a is equivalent to c = c % a
---------------	---	-----------------------------------

**=Exponent AND	Performs exponential (power) calculation on operators and assign value to the left operand	c = a is equivalent to c = c ** a
-----------------	--	-----------------------------------

Python Assignment Operators (cont)

//=Floor Division	It performs floor division on operators and assign value to the left operand	c //= a is equivalent to c = c // a
-------------------	--	-------------------------------------

Addition

string + string	combine together
string + number	crash
number + number	math - addition

Multiplication and Exponents

string *	combine that string multiple times.
number	
string * string	crash
number *	math - multiply
number	
string **	crash
string	
number **	math - exponents
number	
string **	crash
number	

Data Types

Integer	-256, 15
Float	-253.23, 1.253e-10
String	"Hello", 'Goodbye', " " " Multiline " " "
Boolean	True, False
List	[value, ...]

Data Types (cont)

Tuple (value, ...)1
 Dictionary { key: value, ... }
 Set { value, value, ... }2

Loop list Code

```
def creatlist(quitword) :
    print ('Keep entering
    words to add to the list')
    print ('Quit when word
    =', quitword)
    mylist = []
    while True:
        use r_word =
        input( 'Enter a word to add to
        the list:')
        if user_word ==
        quitword
            return
        mylist
            dup lic ateword
        = False
        for item in
        mylist:
            if item
            == user_word:
                -
                dup lic ateword = True
                for item ==
                user_word:
                    -
                    dup lic ateword = True
                    if duplic ateword
                    == True:
                        print
                        ('Dupl icate Word')
                        else:
                            myl -
                            ist.ap pen d(u ser _word)
                            userlist = create Lis t("s -
                            top ")
                            print( use rlist)
```

Random Choice Code

```
import random
mylist = ['beag le' , 'p ome -
ran ian ',' pug ',' gol -
den ',' chi hua hua']
score = 0
chances = 3
start_over = 0
random _item = random.ch oic -
e(m ylist)
while chances > 0:
    sta rt_over = 0
    ran dom _item =
    random.ch oic e(m ylist)
    while start_over < 1:
        print ("== ==- -
        ==- ==- ==- ==- ==- ==- -
        == ==- -")
        print ("Gu -
        essing Game")
        print ("== ==- -
        ==- ==- ==- ==- ==- ==- -
        == ==- -")
        pri nt( " wor -
        ds: ", mylist)
        guess =
        input( " Guess a word: ")
        if (guess in
        mylist):
            if( -
            guess == random _item ):
                -
                pri nt( " That's correc t!")
                -
                score = score + 100
                -
                pri nt( " Sco re: ", score)
                -
                sta rt_over = 2
                else:
                    -
                    pri nt( " Sorry, wrong choice!
                    ")
                    -
                    chances = int(ch ances) -1
                    else:
                        pri -
                        nt( " Sorry, that is not even in
```

Random Choice Code (cont)

```
> else:
    start_over = 2
    print("Game Over! The word was ",
    random_item)
    print("Chance remaining:", chances)
    print("Final score:", score)
```

Python Shop Code

```
print ("welcone to our shop")
price=0
size=( 's' , 'm ', ' l', 'xl')
colour =( ' red ', ' bla ck' , 'w -
hite')
sock=( 'wa nt' , 'not want')
print (size)
shirt = (input ('what shirt size
do you want?'))
if shirt == ('s'):
    price = price+70
    print( "the
    price now is", price)
elif shirt ==('m'):
    price = price+80
    print( "the
    price now is", price)
elif shirt ==('l'):
    price = price+90
    print( "the
    price now is", price)
elif shirt ==('xl'):
    price =
    price+100
    print( "the
    price now is", price)
else:
    pri nt( "our
    shop doesn't have this size.")
    print (colour)
    shirtc olour= (input ('what
    colour of shirt do you want?'))
```

```
the list")

                                chances

= int(ch ances) -1

                                if( chances >

0):

                                pri -

nt( " Chances remain ing :",c -

hances)
```



By **noeyarp**
cheatography.com/noeyarp/

Published 15th February, 2016.
Last updated 10th May, 2016.
Page 3 of 7.

Sponsored by **ApolloPad.com**
Everyone has a novel in them. Finish
Yours!
<https://apollopad.com>

Python Shop Code (cont)

```
> if shirtcolour == ('red'):
    price = price+70
    print( "the price now is",price)
elif shirtcolour ==('black'):
    price = price+80
    print( "the price now is",price)
elif shirtcolour ==('white'):
    price = price+90
    print( "the price now is",price)
else:
    print("our shop don't have this colour")
print (size)
pant = (input('what pant size do you want?'))
if pant == ('s'):
    price = price+70
    print( "the price now is",price)
elif pant ==('m'):
    price = price+80
    print( "the price now is",price)
elif pant ==('l'):
    price = price+90
    print( "the price now is",price)
elif pant ==('xl'):
    price = price+100
    print( "the price now is",price)
else:
    print("our shop doesn't have this
size.choose again")
```

Data Type Conversion

Function	Description
int(x [,base])	Converts x to an integer. base specifies the base if x is a string.
float(x)	Converts x to a floating-point number.
long(x [,base])	Converts x to a long integer. base specifies the base if x is a string.
str(x)	Converts object x to a string representation.
repr(x)	Converts object x to an expression string.
complex(x(real [,imag]))	Create a complex number.
eval(str)	Evaluates a string and returns an object.
tuple(s)	Converts s to a tuple.
list(s)	Converts s to a list
set(s)	Converts s to a set.
dict(d)	Creates a dictionary, d must be a sequence of (key,value) tuples.
frozenset(s)	Converts to a frozen set.
chr(x)	Converts an integer to a character.
unichr(x)	Converts an integer to a Unicode character.
ord(x)	Converts a single character to its integer value.

Data Type Conversion (cont)

hex(x)	Converts an integer to a hexadecimal string.
oct(x)	Converts an integer to an octal string.

Python Variables Types

Number
String
List
Tuple
Dictionary

Loop

While Loop	Repeats a statement or group of statements while a given condition is TRUE. It tests the condition before executing the loop body.
For Loop	Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.
Nested Loop	You can use one or more loop inside any another while, for or do..while loop.

Math

!=	unequal or not equal to
==	equal to example;(a == b) is not true.

Math (cont)

<	less than	example;(a < b) is true.
>	more than	example;(a > b) is not true.
<=	less than or equal	example;(a <= b) is true.
>=	more than or equal	example;(a >= b) is not true.
%	modulo or find the remainder	
<>	If values of two operands are not equal, then condition becomes true.	example;(a <> b) is true. This is similar to != operator.

Vocabulary

variable	holds a value and can be changed.
string	a list of characters such as numbers, letters, symbols.
integer number	whole number or counting number.
float number	the number in decimal.
syntax	grammar structure of language.
value	the number or the string can be store in valuable.
loop	

Vocabulary (cont)

module	the text for storing for python code.
blank	
comment	
input	receives information from the user.
code	
print	to show information.
syntax error	make possible to the parse
boolean	true/false

Statements

If Statement

if expression:
statements

elif expression:
statements

else:
statements

While Loop

while expression:
statements

For Loop

for var in collection:
statements

Counting For Loop

for i in range(start, end [, step]):
statements
(start is included; end is not)

Python Arithmetic Operators

Operator	Description	Example
+	Adds values on either side of the operator.	a + b = 30
- Subtraction	Subtracts right hand operand from left hand operand.	a - b = 30
* Multiplication	Multiplies values on either side of the operator.	a * b = 200
/ Division	Divides left hand operand by right hand operand.	b / a = 2
% Modulus	Divides left hand operand by right hand operand and returns remainder.	b % a = 0
** Exponent	Performs exponential (power) calculation on operators.	a ** b = 10 to the power 20
//	Floor Division - The division of operands where the result is the quotient in which the digits after the decimal point are removed.	9//2 = 4 and 9.0/2.0 = 4.0



By noeyarp
cheatography.com/noeyarp/

Published 15th February, 2016.
Last updated 10th May, 2016.
Page 5 of 7.

Sponsored by [ApolloPad.com](https://apollopadd.com)
Everyone has a novel in them. Finish Yours!
<https://apollopadd.com>

Area of circle Code

```
while True:

    use r_r adius =
input( "What is the radius ?")
    radius = float( use -
r_r adius)

    pi = 3.1415
    area= pi radius * 2
    print ("The area of the
circle is", area)
```

Code

```
mystring = "hello"
print (mystring)
firstname = input( "what is your
first name?")
lastname = input( "what is your
last name?")
fullname = firstname + " " +
lastname
print (fullname)
letter number = int(input( "
what is letter number? " ))
if letter number >le n(f ull -
name):
    print ( " invalid letter
number, try again! " )
else:
    letter = ( fullna me[ -
let ter number] )
    print (letter)
    num ber letter =
int(input( "how many times to
print letter " ))
    if number letter >100:
        print ( " too many
letters to print! " )
    else:
        print (letter *
number letter )
```

Print Code

```
name = "noey RAWIDA"
print (name.u pp er())
print (name.l ow er())
print (name.c ap ita lize())
print (name.t it le())
```

List Code

```
shoppinglist = ['tshirt' ,
'pants' , 'socks']
for myvariable in shoppi nlist:
    print (myvar iable)
print (shopp ing lis t[1])
for number in range(5):
    print (number)
```

Count Down Code

```
#create a program that receives
a number from the user and count
down from that number on the
same line
#recive the number from the user
as a string
user_n umber= input( " enter
number ")
#convert the user number to an
integer
number = int(us er_ number)
#setup the countdown string
countd own _string = " "
while number > 0:
    #add the number to the
string
    #su btract 1 from the
number
    cou ntd own _string =
countd own _string + str(nu -
mber) + " "
    number = number-1
print (count dow n_s tring)
```

Count Down Code (cont)

```
> #output should look like this
# if the user enter 5:
#5 4 3 2 1
#print (countdown_string)
```

Random Code 2

```
import random
intlist = [1,2,3,4]
random_int = random.ch oic e(i -
ntlist)
print( int lis t,r and om_int)
fplist = [1.0, 2.0, 3.0, 4.0]
random_fp = random.ch oic e(f -
plist)
print( fpl ist ,ra ndo m_fp)
strlist =['boo k', 'pe n', 'ba -
g', 'pe ncil']
random_str = random.ch oic e(s -
trlist)
print (strli st, ran dom _str)
mylist = [1, 1.0, 'beagle' ]
random_item = random.ch oic e -
e(m ylist)
print( myl ist ,ra ndo m_item)
myvar1 = 1
myvar2 = 2
myvar3 = 3
varlist =[myvar1, myvar2,
myvar3]
random_var = random.ch oic e(v -
arlist)
print( var lis t,r and om_var)
```