

### Functions

print()	Show information that you want on the screen
int()	change number to be number integer
float()	change number to be decimal number
""" .... """	comment(many lines)
str()	a list of number, letter and symbols
#	comment(one line)
input()	receive information from user
import random + random.choice(list)	pick random item from the list

### 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
```

### Print Code

```
name = "nae CHUTIMA"
print (name.upper())
print (name.lower())
print (name.capitalize())
print (name.title())
```

### number to binary code

```
user_number = ""
while user_number != "0":
    user_number = input("enter a number ")
    number = int(user_number)
    binary_string = ""
    while (number > 0):#the number is greater than 0
        remainder = number % 2
        binary_string = str(remainder) + binary_string
        number = number//2
        print (number)
    print (" binary string is ", binary_string)
```

### Count down code

```
#create a program that receives a number from the user and count down from that number on the same line
#receive the number from the user as a string
user_number= input("enter number ")
#convert the user number to an integer
number = int(user_number)
```

### Count down code (cont)

```
> #setup the countdown string
countdown_string = ""
while number > 0:
    #add the number to the string
    #subtract 1 from the number
    countdown_string = countdown_string + str(number) + ""
    number = number-1
print (countdown_string)
#output should look like this
# if the user enter 5:
#5 4 3 2 1
#print (countdown_string)
```

### The loop not go forever

```
gameover = 0
while( gameover == 0):
    print ("hello ")
    gameover = 1
```

### print number in separate line in list mylist

```
mylist = [1,2,3,4,5]
for number in mylist:
    print (number)
```

### using a while loop to print each item in list

```
wlist = [2,4,5,6,7,8]
index = 0
while index < len(wl ist):
    print (wlist [in dex])
    index = index +1
```

### Definition Area

```
def areaOfTriangle
(base,height):
    return base*high 0.5
base = float( inp ut( 'Enter the
base of the triang le'))
height = float( inp ut( inp -
ut( 'Enter the height of the
triangle: '))
print('The area of the triangle
is',ar eaO fTr ian gle (ba se, -
hei ght))
def volume OfPrism (area, -
height)
    return areaOf Prism*
height
base = float( inp ut( 'Enter the
area of the prism'))
height = float( inp ut( inp -
ut( 'Enter the height of the
prism: '))
```

### Import random

```
import random
#create list
mylist = ['nadia' , 'nat' ,
'lily' , 'eye']
#print (my lis t[0])
# select a random item from the
list
```

### Import random (cont)

```
> counter = 0
while counter < 10:
    random_item = random.choice(mylist)
    print (random_item)
    counter = counter + 1
```

### The loop not go forever (copy)

```
gameover = 0
while( gam eover == 0):
    print ("he llo ")
    gam eover = 1
```

### Addition

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

### Multiplication and Exponents

string * number	combine that string
string* string	crash
number * number	math - multiply
string ** string	crash
number ** number	math - exponent
string ** number	crash

### 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= 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 )
```

### list code

```
shoppinglist = ['tshirt' ,
'pants' , 'socks']
for myvariable in shoppinglist:
    print (myvariable)
print (shoppinglist[1])
for number in range(5):
    print (number)
```

### Random code 2

```
import random
intlist = [1,2,3,4]
random_int = random.choice(intlist)
print( intlist, random_int)
fplist = [1.0, 2.0, 3.0, 4.0]
random_fp = random.choice(fplist)
print( fplist , random_fp)
strlist = ['book', 'pen', 'bag', 'pencil']
random_str = random.choice(strlist)
print( strlist, random_str)
mylist = [1, 1.0, 'beagle' ]
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)
```

### print fifth character from the variable myword

```
myword = "hellothere"
print ( myword[4] )
```

### convert input to a integer multiply by 10

```
while True:
    use_number =
input( " Enter the number ")
    number = int( user_number ) * 10
    print( number)
```

### convert input to a integer multiply by 10

```
while True:
    use_number =
input( " Enter the number ")
    number = int( user_number ) * 10
    print( number)
```

### palindrome

```
while True:
    def palindrome(word):
        reverse = ""
        myresult = ""
        for letters in word:
            reverse = letters + reverse
        if word == reverse :
            return True
        else:
            return False
    word = input( " please enter a word: ")
```

### palindrome (cont)

```
> if word == "quit":
    break
theresult = palindrome(word)
print("This word has",len(word),"letter")

if theresult == True:
    print(True,"word + str('It is a palindrome')")
else:
    print(False,"word + str('It is not a palindrome')")
```

### Math

==	equal to
!=	no equal to
<	less than
>	more than
<=	less than or equal to
>=	more than or equal to
%	modulo, Find the remainder

### VOCABULARY

variable	hold a value and can be change
string	a list of character such as number, letter and symbols
integer	whole number or counting
number	number

### VOCABULARY (cont)

float	the number in decimal number
syntax	grammar or structure of language
value	the number or string can be store in valuable
module	the text for storing for python code or find the remainder
input	gain information from user
print	to show information on the screen
syntax	make impossible to the parse error
boolean	true/false

### Random Choice Code

```
import random
mylist = ['beagle', 'pomegranian', 'pug', 'golden', 'chihuahua']
score = 0
chances = 3
start_over = 0
random_item = random.choice(mylist)
while chances > 0:
    start_over = 0
    random_item = random.choice(mylist)

    while start_over < 1:
```

### Random Choice Code (cont)

```
> print ("-----")
=="")
print ("Guessing Game")
print ("-----")
=="")
print("words:", mylist)
guess = input("Guess a word: ")
if (guess in mylist):

    if(guess == random_item):
        print("That's correct!")
        score = score + 100
        print("Score:", score)
        start_over = 2
    else:
        print("Sorry, wrong choice! ")
        chances = int(chances) -1
    else:
        print("Sorry, that is not even in the list")
        chances = int(chances) -1
if(chances > 0):
    print("Chances remaining:", chances)
else:
    start_over = 2
    print("Game Over! The word was ", random_item)
    print("Chance remaining:", chances)
    print("Final score:", score)
```

### using loop to print out each item in list

```
forlist = ['hi', 'hello', 'bye']
for word in forlist:
    print( word)
```

### create list

```
# create a function that allows a user to create a list
#function name: word
#parameter: word
#return the list
def createList (quitword):
    mylist = [] #create an empty list
    while True:
        #get the item from the user
        item = input( 'Please enter a list item')
        # when the user enters an item that is equal to quitword
        if item == quitword:
            return mylist
        # check if the list already in the list
        duplicatedword = False
        # figure out if the word is already in the list
        for word in mylist:
            if item == word:
                duplicatedword = True
            if duplicatedword == True:
                print ('Duplicate word!')
```

### create list (cont)

```
> else:
    # add this item to the end of the list
    mylist.append(item)
#function call
mylist = creatList("stop")
print(mylist)
```

### Definition in each word

```
def printDefinitions(word):
    if word == " variable":
        print( " " "
        'A variable is things
that able to change'
        " " ")
    elif word == " function":
        print( " " "
        'A function is to
help to use a code'
        " " ")
    elif word == " variable":
        print( " " "
        'A variable is the
things that help you to change'
        " " ")
    elif word == " return
variable":
        print( " " "
        'A return
variable is something that
return the function back to you'
        " " ")
    elif word == " argument":
```

### Definition in each word (cont)

```
> print("""
'A argument is something that give the
function to you'
""")
elif word == "parameter":
    print("""
'A parameter is something that give
function'
""")
elif word == "string":
    print("""
'A string is the text, number or anything
that is list the characters'
""")
else:
    print("""
'unknown word'
""")
user_word = input( "Enter a word to define:
")
printDefinitions(user_word)
```



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