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
#recive the number from the user as a string
user_number= input("enter number")
#convert the user number to an integer
number = int(user_number)
#setup the countdown string
countdown_string = ""
```

Count down code (cont)

```
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(wlist):
    print (wlist[index])
    index = index +1
```

Definition Area

```
def areaOfTriangle (base,height):
    return base heigh 0.5
base = float(input('Enter the base of the triangle'))
height = float(input(input('Enter the height of the triangle: '))
print('The area of the triangle is',areaOfTriangle(base,height))
def volumeOfPrism (area,height)
    return areaOfPrism* height
base = float(input('Enter the area of the prism'))
height = float(input(input('Enter the height of the prism: '))
```

Import random

```
import random
#create list
mylist = ['nadia' , 'nat' , 'lily' , 'eye']
#print(mylist[0])
# select a random item from the list
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(gameover == 0):
    print ("hello")
    gameover = 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:

    user_radius = input("What is the radius?")
    radius = float(user_radius)
    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)
letternumber = int(input( " what is letter number? " ))
if letternumber >len(fullname):
    print ( " invalid letter number, try again! " )
else:
    letter = ( fullname[letternumber] )
    print (letter)
    numberletter = int(input( "how many times to print letter " ))
    if numberletter >100:
       print ( " too many letters to print! " )
    else:
        print (letter * numberletter )
```

list code

```
shoppinglist = ['tshirt' , 'pants' , 'socks']
for myvariable in shoppinlist:
    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:
    user_number = input("Enter the
number")
    number = int(user_number)*10
    print(number)
```

convert input to a integer multiply by 10

```
while True:
    user_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
            reverse = ""
    word = input("please enter a
word: ")
    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 number	whole number or counting number
float number	the number in decimal
syntax	grammar or structure of lauguage
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 error	make impossible to the parse
boolean	true/false

Random Choice Code

```
import random
mylist =
['beagle','pomeranian','pug','golde
n','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:
        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
```

Random Choice Code (cont)

```
        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
#paramater: 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
```

create list (cont)

```
        duplicateword = False
        # figure out if the word is
already in the list
        for word in mylist:
            if item == word:
                duplicateword =
True
        if duplicateword == True
            print ('Duplicate
word!')
        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":
```

Definition in each word (cont)

```
        print("""
        'A return variable is something that
return the function back to you'
       """)
    elif word == "argument":
       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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