Function

print()	Show the information that you want on screen
int()	Change number to be number integer
float()	Change number to be decimal number
input()	Gain information from user
str()	A list of number, letter and symbols
len()	The length of the string
#	Comment, no effect

Multiplication and Exponent

string*number	combine that string
string*string	CRASH
number*number	Multiply
string**string	CRASH
number**number	Exponent
string**number	CRASH

convert to binary

```
user_number= ' '
while user_number ! = '0'
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)
```

Sort 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
```

Print Name

```
name="tim GIRARD"
print(name.upper())
```

area of circle

```
def areaOfcircle(radius):
    if radius<=0:
        return "Error invalid radius"
    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: 0
The area of the circle is Error invalid radius
>>>
Enter the radius: 7
The area of the circle is 153.9335
```

doublet

```
def doublet(number):
    return number * 2
print (doublet(3))
print (doublet(doublet(4)))
```

6
16

function call

```
def printDefinitions(word):
     if word == "variable":
        print ("""A variable is the value that can be
changed""")
     elif word == "function":
        print ("""A function is blog of code that we
can reuse""")
     elif word == "parameter":
        print ("""A parameter is something is given in
the function""")
     elif word == "arguement":
        print ("""A arguement is something is given in
the function""")
     elif word == "function call":
        print ("""A function call is something that
make the function runs""")
     elif word == "string":
        print ("""A string is character such as symbol,
number""")
     else:
         print("unknown word")
     return
while True:
     user_input=input("Enter word:")
     printDefinitions(user_input)
```

Enter word:variable
A variable is the value that can be changed
Enter word:function
A function is blog of code that we can reuse
Enter word:hello
unknown word
Enter word:

areaOfTriangle,volumeOfPrism

```
def areaOfTriangle(b,h):
    area=0.5bh
    return(area)
user_base = float(input('Enter the base of the
triangle'))
user_height = float(input('Enter the height of the
triangle'))
print('The area of the triangle
is',areaOfTriangle(user_base,user_height))
def volumeOfPrism(b,h,l):
    volume = areaOfTriangle(b,h)*l
    return(volume)
user_base = float(input('Enter the base of the
prism'))
user_height = float(input('Enter the height of the
prism'))
user_length = float(input('Enter the length of the
prism'))
print('The volume of the Prism
is',volumeOfPrism(user_base,user_height,user_length))
```

Enter the base of the triangle6
Enter the height of the triangle6
The area of the triangle is 18.0
Enter the base of the prism6
Enter the height of the prism6
Enter the length of the prism6
The volume of the Prism is 108.0

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

Addition

string+string	Combine together
string+number	CRASH
number+number	Addition

Vocabulary

variable	Hold a value and can be changed
string	A list of character such as number,letter and symbol
integer number	whole number/ counting number
float number	the number in decimal
syntax	Grammar/Structure of language
Boolean	True/False

Math

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

Countdown Machine

```
user_number=input("What number do you want to count
down?")
numer=int(user_number)
countdown_string=' '
while number > 0
countdown_number= countdown_string+
str(number) + " "
number=number-1
```

Countdown Machine (cont)

```
#print(number)
print(countdown_string)
```

Naming Cinvention

Rule for giving name
-letter
-numbers
-underscore
Valid name
-myStr
-my3
-Hello_there
Invalid name
-3my="hi" -- cannot start with number
-first number='hi'
-first-name
-first+name

random stuff

```
import random
intlist= [1,2,3,4,5]
random_int = random.choice(intlist)
print(intlist,random_int)
fplist=[1.1,2.2,3.3,4.4,5.5]
random_fp= random.choice(fplist)
print(fplist,random_fp)
strlist=['opal','love','tientien']
random_str= random.choice(strlist)
print(strlist,random_str)
```

random stuff (cont)

```
mylist=['tientien',1,5.5]
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)
```

[1, 2, 3, 4, 5] 4
[1.1, 2.2, 3.3, 4.4, 5.5] 4.4
['opal', 'love', 'tientien'] opal
['tientien', 1, 5.5] tientien
[1, 2, 3] 3
>>>

My print

```
def myprint(text):
    print("***"+str(text)+"***")
    return
myprint (1)
myprint ("hello")
myprint (2.5)
def myprintnew(text, decoration):
    print(decoration + str(text) + decoration)
    return
myprintnew(1,"+++")
myprintnew ('hello','=-=-=-=-=-=-=-=')
```

reverse

```
reverse = ""
letter_num=0
user_input = input("type in a number")
while letter_num<len(user_input):
    reverse = user_input[letter_num]+reverse
    letter_num = letter_num+1
if reverse == user_input:
    print ('parindorm')
else:
    print ('not parindorm')
```

type in a number12321
parindorm
>>>
type in a number
3
parindorm
>>>
type in a number13
not parindorm
>>>

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