

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 characters
len()	The length of the string
" " " " " "	comment (many lines)
#	comment(one line)
import random + random.choice()	pick random item in the list

Vocabulary	
variable	holds a value and can be changed
string	a list of characters such as number, letter, symbols
input	receives information from the user
float	number with a decimal
number	
syntax	structure of language or grammar
integer	whole number or counting number
print	displays information on the screen

Vocabulary (cont)	
value	the number or string can be store in valuable
syntax error	make impossible to the phase

```

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 letter too print! ")
    else:
        print (letter * numberletter)

```

```

Area of a triangle

def areaoftriangle(base, height):
    return base * height / 2
base = float(input('Enter the base of the triangle: '))

```

```

Area of a triangle (cont)

height = float(input('Enter the height of the triangle: '))
print ('The area of the triangle is', areaoftriangle(base, height))

```

```

Python Palindrome

while True:
    def ispalindrome(word):
        reverse= ""
        myresult= ""
        for letter in word:
            reverse= letter+reverse
        if word == reverse:
            return True
        else:
            return False
        reverse= ""
    word= input("Please enter a word: ")
    if word == "quit":
        break
    myresult= ispalindrome(word)
    print("This word has", len(word), "letters")
    if myresult== True:
        print(True, ',', word+str(" is a palindrome"))
    else:
        print(False, ',', word+str(" is not a palindrome"))
# Print: Please enter a word:
kayak
This word has 5 letters
True , kayak is a palindrome
Please enter a word: mint
This word has 4 letters
False , mint is not a palindrome

```

Recieve number and determine number

```
9 is divisible by3
7 is not divisible by 3

usernumber= input("Please enter the
a number: ")
remainder= usernumber%3
if remainder ==0:
    print(usernumber, "is divisible by
3")
else:
    print(usernumber, "is not
divisible by 3")
4 is positive 0 is zero -8 is negative

usernum= input("Pls enter the
number: ")
if usernum>0:
    print(usernum, "is positive")
elif usernum==0:
    print(usernum, "is zero")
else:
    print(usernu, "is negative")
```

areaOFellipse

```
# the function should be given two
parameters and should return the
area
def areofellipse(r1r2):
    area= 3.14r1r2
    return(area)
r1= float(input("Enter radius1: "))
r2= float(input("Enter radius2: "))
area= areaofellipse(r1,r2)
print(area)
```

Operation

```
==    equal to
!=    not equal
<     less than
>     greater than
<=    less than or equal to
>=    greater than or equal to
%     Modulo, find the remainder
```

Multiplication and Exponents

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

Reverse word

```
while True:
    word = input("Please enter a
word")
    index = 0
    reverse = ' '
    while int(index) < len(word):
        reverse = word[index] +
(reverse)
        index = int(index) + 1
    print ("Reverse: ",
reverse)
```

Random choice code

```
import random
mylist =
['cat','dog','chicken','bird','fish
']
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
            if(chances > 0):
                print("Chances
remaining:",chances)
            else:
                start_over = 2
```

Random choice code (cont)

```
print("Game Over! The word
was ", random_item)
print("Chance remaining:",
chances)
print("Final score:",
score)
```

Convert number to binary

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

code

```
def createlist(quitword):
    mylist= []
    while True:
        item= input("Please enter a
list item: ")
        if item== quitword:
            return mylist
        duplicateword= False
        for myvar in mylist:
            if myvar== item:
                duplicateword= True
        if duplicateword= True:
            print ("Duplicate word!")
    else:
        mylist.append(item)
```

code (cont)

```
mylist= createlist ("stop")
print(mylist)
```

For loop

```
0
1
12
mystring= ""
for number in range (3)
    mystring= mystring+
str(number)
    print (mystring)
or
mystring=""
count=0
while count<5:
    mystring= mystring+str(count)
    print(mystring)
    count= count+1
```

Addition

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

List code

```
shoppinglist = ['tshirt', 'pants',
'socks']
for myvariable in shoppinglist:
    print (myvariable)
or
mylist= [1,2,3,4]
number= 0
while number<len(mylist):
    print (mylist[number])
```

List code (cont)

```
number= number+1
```

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 name

```
name = "time GIRARD"
print (name.upper()) > TIM GIRARD
print (name.lower()) > time girard
print (name.capitalize()) > Tim
girard
print (name.title()) > Tim Girard
```

Area of circle

```
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)
```

Loop doesn't go forever

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

while loop

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

code

```
# receives input from the user in a
loop. convert the input to an
integer and print out that integer
multiplied by 10
while True:
    usernumber= input("Please enter
the number: ")
    answer= int(usernumber)*10
    print (answer)
```

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)
#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)
```

Count down code (cont)

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

Word length

```
while True:
    usernumber= input("Please enter
a word: ")
    if usernumber == "exit":
        break
    print(len(usernumber))
# Please enter a word: hello
5
Please enter a word: pls
3
Please enter a word: exit
```

True False

```
create function= def
True or anything is True
False and anything is False
```

User enters 12.5, print out 6.25

```
number= float(input("Please enter
number: "))
print (number/2)
```

Even number

```
# print all the even numbers from 1
to 100 using while loop
number=0
while number<100:
    variable= number+2
    print(variable)
```

Multiplication Table

```
usernum= int(input("Enter a number:
"))
numlist= [1,2,3,4,5,6,7,8,9,10]
for num in numlist:
    answer= usernum*num
    print (user,"*",num,"=",answer)
```