

Vocabulary

Variable	Something that can be change
String	A list of characters
Integer	Whole number/counting
Number	number
Float Number	The number in decimal
Syntax	Grammar
Modulo	Remainder
Boolean	True&False

Function

print()	display info. on the screen
input()	receives info from the user
int()	convert a value to an interger
float()	convert a value to a floating point
str()	convert a value to a string
len()	The length of the string
#	comment
if then else	if ... is True "then" will work or if it False then "else" will work
While: True	Forever Loop
for	Looping Forever

Function largest number

```
def max2(num1,num2):
    if num1 > num2:
        maxvalue = num1
    elif num2 > num1:
        maxvalue = num2
    return maxvalue

#function call
print(max2(92,3))
print(max2(4,5))

def max3(num1,num2,num3):
    maxvalue = num1
    if num2 > maxvalue:
        maxvalue = num2
    elif num3 > maxvalue:
        maxvalue = num3
    return maxvalue

#function call
print(max3(92,5,6))
print(max3(8,9,7))
print(max3(99,40,49))

def maxlist(list):
    maxvalue = list[0]
    for num in list:
        if maxvalue < num:
            maxvalue = num
    return maxvalue

mylist = 3,5476,134,8,451,87
print(maxlist(mylist))
```

Naming Convention

Rules for giving name

- letter
- numbers
- underscores

Valid Name

- _myStr
- my3

- Hello_there

Invalid Name

- 3mt = "hi" -- cannot start with number
- first name = "hi"
- first-name

Volume and Triangle

```
def areaOfTriangle(base,height):
    area=1/2 base height
    return(area)

user_base = float(input('Enter the
base of the triangle: '))
user_height = float(input('Enter
the height of the triangle: '))

#function call
print('The area of the triangle
is',areaOfTriangle(user_base,user_h
eight))

def
volumeOfPrism(base,height,prism_hei
ght):
    volume =
areaOfTriangle(base,height) *
prism_height
    return (volume)

user_prism_height =
float(input('Enter the prism
height:'))
```

Volume and Triangle (cont)

```
print ('the volume of the prism
is', volumeOfPrism(user_base,
user_height, user_prism_height))
```

Palindrome

```
def isPalindrome(word):
    if reverse_item == user_word:
        return "true"
    else:
        return "false"
while True:
    user_word = input('What is the
word: ')
    length = len(user_word)
    if user_word == 'quit':
        break
    else:
        print("Length of the word
is: ", (length))

    reverse = ""
    for item in user_word:
        reverse = item + reverse
    reverse_item = reverse
    s = 0
    while s < length / 2 + 1 :
        if reverse_item[s] ==
user_word[s]:
            print(user_word, "is a
palindrome")
            break
        s = s + 1
    else:
        print(user_word, "is
not a palidrome")
        break
```

Math

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

Addition

String + String	combine together
string + number	CRASH
number + number	math

Multiplication and Exponent

string * number	combine the string
string * string	CRASH
number * number	math
string ** string	CRASH
number ** number	Math
string ** number	CRASH

Example

```
Print (2) -interger
Print (2.4) - Floating Point
Print (myStr) - variable
Print ("Hello") - string
Print (myStr,"Hi",2,1,0) -- commas
myStr = "Hi"
mystr - name
"Hi" - value can change
print (int(1.5)) - 1
```

Example (cont)

```
print (float(1)) - 1.0
print (4%2) - 0
```

Randomizer

```
"""
Group member: Kim, Pop, and Earn
Group: 10-03
"""
import random
mylist = ('lion' , 'tiger' , 'dog'
, 'bee' , 'cat')
print (mylist)
random_item =
random.choice(mylist)
print (random_item)
chance = 7
score = 0
while chance > 0:
    user_guess = input("Guess a
word: ")
    if user_guess == random_item:
        score = score + 100
        print ("That's Correct!")
        print ('score=', (score))
        random_item =
random.choice(mylist)

    else:
        if user_guess in mylist:
            chance = chance - 1
            print ("Sorry, wrong
choice")
            print ("chance =",
(chance))
            print ("The word is:
", random_item)
            random_item =
random.choice(mylist)
```

Randomizer (cont)

```

        print ("score",
(score))
    else:
        chance = chance - 1
        print ("Sorry, that is
not even in the list")
        print ("chance =",
(chance))
        random_item =
random.choice(mylist)
        print ("score",
(score))
    if chance == 0:
        print ("GAME OVER!")
        print (' Answer =',
(random_item))
        print ("Final Score =",
(score))

```

Area

```

def areaOfCircle(r):
    pi = 3.1415
    area = 2*pi*r
    return area
user_radius = float(input("Enter
the radius: "))
print("The area of the circle is",
areaOfCircle(user_radius))

```

Calculating Program

```

def calc(num1, num2, operation):
    if operation == "sum":
        return sum(num1, num2)
    elif operation == "product":
        return product(num1,num2)
    elif operation == "diff":
        return diff(num1,num2)
    elif operation == "div":

```

Calculating Program (cont)

```

        return div(num1,num2)

def sum(a, b):
    return (a + b)
def product(a, b):
    return (a * b)
def diff(a, b):
    return (a - b)
def div(a, b):
    return (a / b)
print (calc(1,2,"sum"))
print(calc (4,2, "diff"))
print (calc (9, 3, "div"))
print(calc (2, 12, "product"))

```

Palindrome2

```

'''
Kim Jaroensattayatham(1003)
'''
def isPalindrome(word):
    index = 0
    reverse = ""
    while int(index) < len(word):
        reverse = word[index] +
reverse
        index = int(index) + 1
    if reverse == user_input:
        return "true"
    else:
        return "false"
while True:
    user_input = input("please
enter the word")

```

Palindrome2 (cont)

```

if user_input == "quit":
    break
print(len(user_input))
print(isPalindrome(user_input))

```

Reverse Word

```

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

```

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)

```

Countdown Machine

```
user_number = input("What number do you
want to countdown")
number = int(user_number)
countdown_string = ''
while number > 0:
countdown_number = countdown_string +
str(number) + " "
number = number - 1
#print(number)
print(countdown_string)
```

IMPORT

```
import random
intlist = [1,2,3,4,5]
random_int =
random.choice(intlist)
print(intlist, random_int)
fplist = [1.0,1.2,1.3]
random_fp = random.choice(fplist)
print(fplist, random_fp)
strlist = ['a','b','c','d','e']
random_str =
random.choice(strlist)
print(strlist, random_str)
mylist = [1,1.0,'hello']
random_item =
random.choice(mylist)
print (mylist, random_item)
myvar1 = 1
myvar2 = 2
myvar3 = 3
varlist = [myvar1,myvar2,myvar3]
random_var =
random.choice(varlist)
```

IMPORT (cont)

```
print(varlist, random_var)
```

Asking Name Code

```
firstname = input(" what is your firstname? ")
lastname = input(" what is your lastname?")
fullname = firstname + " " + lastname
print (fullname)
letternum = int(input(" what is the letter
number? "))
if len(fullname) < letternum :
print("Invalid letter number, try again! ")
else :
print (fullname[letternum])
letterprint = int(input(" how many time to print
letter? "))
if letterprint > 100 :
print (" too many letters to print ")
else :
print (fullname[letternum] * letterprint)
```

rdtfghjbkn

```
'''
theList = ('A' , 'B' , 'C' , 'D')
for item in theList:
    print (item)
whileList = ('a' , 'b' , 'c')
index = 0
while index < len(whileList):
    print (whileList[index])
    index = index + 1
```

rdtfghjbkn (cont)

```
while True:
    user_input = input("Enter your
word")
    print (len(user_input))
    if user_input == "exit":
        break
def theFunction():
    while True:
        user_input = input ("Enter
the word:")
        if user_input == "stop":
            break
#call the function
theFunction()
def computeThis(a1,b2):
    theproduct = a1 * b2
    print(theproduct)
    return
computeThis(1,2)
'''
def finalFunction(string):
    print ("*",string,"*")
    return
finalFunction("Kim")
```



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