

Function

print()	Show information that you want on the 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

Vocabulary

Variable	Hold a value and can be change
String	A list of character such as number, letter and symbols
Integer number	Whole number/counting number
Float number	The number in decimal
Syntax	Grammar/Structure of language
Modulo	Find the remainder
Boolean	True/False

Example

Print (2) – integer
 Print (2.5) – floating point
 Print ("Hello") – string
 Print (mystr) – variable
 Print (mystr, "Hi", 2, 1.0) -- commas
 mystr = "Hi"
 mystr ← name
 "Hi" ← value can change
 print (int(1.5)) → 1
 print (int("2")) → 2
 print (float(1)) → 1.0 anything to a float
 Modulo/Remainder %
 print (4%2) → 0
 print (30%7) → 2

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

Selecting Largest Value

```
def max2 (num1,num2):
    if num1 > num2:
        return num1
    if num1 < num2:
        return num2
def max3 (num1,num2,num3):
    if num1 > num2 and num1 > num3:
        return num1
    if num2 > num1 and num2 > num3:
        return num2
    if num3 > num1 and num3 > num2:
        return num3
num1=input("Enter your num1:")
num2=input("Enter your num2:")
num3=input("Enter your num3:")
print("the largest number of max3 is:",max3(num1,num2,num3))
print("the largest number of max2 is:",max2(num1,num2))
```

==

```
myboolean = 2 == 3
if myboolean:
    print ("truth")
else:
    print ("lies")
```

0,01,012,0123,01234

```
mystring = ""
count = 0
while count <= 4:
    mystring = mystring + str(count)
    print (mystring)
    count = count + 1
mystring = ""
for num in range(5):
```

0,01,012,0123,01234 (cont)

```
mystring = mystring + str(num)
print (mystring)
```

Definition

```
def printDefinition(word):
    if word == "variable":
        print ("""
        A variable is the the thing that can be changed.
        """)
    elif word == "parameter":
        print ("""
        A parameter is the limiting factor
        """)
    elif word == "argument":
        print ("""
        An argument is the identifier that you give to
        function
        """)
    elif word == "string":
        print ("""
        A string is something that can be repeated by
        the number.
        """)
    elif word == "function call":
        print ("""
        A function call is the word you use to reuse the
        function.
        """)
    else:
        print ("unknown word")
    while True:
        user_input = input("Please type the word :")
        printDefinition(user_input)
```

Math

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

Addition

string + string	Combine together
string + number	CRASH!
number + number	Addition (Math)

Multiplication and Exponents

string * number	Combine that string
string* string	CRASH!
number * number	Multiply (Math)
string ** string	CRASH!
number ** number	Exponent (Math)
string ** number	CRASH!

Naming Convention

Rule for giving name

- letter
- numbers
- underscore _

Valid name

- _myStr
- my3
- Hello_there

Invalid name

- 3my="hi" -- cannot start with number
- first name="hi"
- first-name
- first+name

Area of Circle

```

"""
Python Intro Assignment #2
name
student number
"""
#Ask the user for a radius of a circle
user_radius = input("What is a radius of a
circle?")
#Convert the given radius to a floating point
radius = float(user_radius)
#Make a variable called pi
pi = float(3.1415)
#Calculate the area of the circle using
exponents
area = pi(radius*2)
#Display the area of the circle to the user
print ("The area of the circle is", area)

```

Hex

```

user_number = input("Enter number to convert
to hex : ")
number = int(user_number)
hex_string = ""
while (number > 0):
remainder = number % 16
if remainder == 10:
remainder = 'A'
elif remainder == 11:
remainder = 'B'
elif remainder == 12:
remainder = 'C'
elif remainder == 13:
remainder = 'D'
elif remainder == 14:
remainder = 'E'
elif remainder == 15:
remainder = 'F'
hex_string = str(remainder) + str(hex_string)
number = number // 16
print ("Hex string is 0x",hex_string)

```

1 * 1 = 1

```

def multiplicationTable(num):
multi = 0
while multi < 10:
multi = multi + 1
user_output = num*multi
print ( num,"*",multi,"=",user_output)
user_num = int(input("Enter the number: "))
multiplicationTable(user_num)

```

Fibonacci

```

num1 = 0
num2 = 1
fibonacci = num1 + num2
output = "0,1"
while fibonacci < 50:
output = output + "," + str(fibonacci)
num1 = num2
num2 = fibonacci
fibonacci = num1 + num2
print (output)

```

Boolean

False or True	True
False and True	False
True and False	False
True and True	True
False or False	False

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)

```

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 count down? ")
number = int(user_number)
countdown_string = ''
while number > 0:
countdown_number = countdown_string +
str(number) + " "
number = number - 1
#print(number)
print (countdown_string)

```

Sort fruit list

```
fruits = [] #an empty list
for number in range(5):
    user_fruit = input("Please enter a fruit")
    fruits.append(user_fruit)
print ("Size of fruit list is", len(fruits))
fruits.sort()
for fruit in fruits:
    print ("Fruit: ", fruit)
```

Print Name

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

Guess

```
import random
chance = 3
score = 0
mylist = ['Hack', 'ToeyD.', 'Patter','Tim','Lily']
random_item = random.choice(mylist)
while chance > 0:
    print (mylist)
    print ("Chances Remaining =",chance)
    guess = input("Guess a word from the above :")
    if guess == random_item:
        score = score + 100
        print ("That's correct!","The score is :",score)
        random_item = random.choice(mylist)
    else:
        print ("Sorry, wrong choice!")
        chance = chance - 1
    if guess in mylist:
        print ("")
    else:
        print ("Sorry,that is not even in the list!")
    if chance == 0:
        print ("Game Over! The word
was",random_item)
    print ("Final score: ",score)
```

Even,Odd number

```
even = 0
odd = 0
while True:
    user_num = int(input("Enter the number :"))
    if user_num >= 0:
        if user_num % 2 == 0:
            even = even + 1
        else:
            odd = odd + 1
        else:
            print ("Even number :", even)
            print ("Odd number :", odd)
            break
```

For loop word

```
For word in mylist:
    print (word)
```

