

Function

print()	show information that you want on the screen
int()	change number to be number integer
float()	change number to be decimal number
str()	a list of number, letter and symbols
len()	the length of the string
#	comment (no effect)

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

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 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)
```

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))
```

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
Floating number	the number in decimal
Syntax	grammar of python
Modulo	find the remainder
Boolean	true/false

Addition

string + string	combine together
string + number	CRASH
number + number	addition (math)

Example

```
Print (2) – integer
Print (2.5) – floating point
Print ("Hello") – string
Print (mystr) – variable
Print (mystr , "H i", 2, 1.0) -- commas
```

Example (cont)

```
mystr = "Hi"
mystr ← name
"Hi" ← value can change
```

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

Math

==	equal to
!=	not equal to
<	less than
>	more than
<=	less than or equal to
>=	more than or equal to
%	modulo, find the remainder



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 ("Re verse: ", reverse)
```

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)
```

