

### 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

### 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	Exponents (Math)
string ** number	CRASH!

### if/ elif/ else

```
def printdefinition (word):
if word == "function":
print("""
function lets you use code
""")
elif word== "string":
print("""
string is list of character
""")
else:
print ("unknown word")
user_word = input ("Enter a word to define: ")
printdefinition(user_word)
```

### for loop

```
"""
list = [2,3,4,5,6,7]
list_num = 0
while (list_num < len(list)):
print (list[list_num])
list_num = list_num+1
"""
forlist = [1,2,3,4]
for item in forlist:
print (item)
```

### circle

```
def doubleIt(number):
return number*2
print (doubleIt (3))
print (doubleIt (2.5))
print (doubleIt("hi"))
myvar = doubleIt (doubleIt (3))
print (myvar)
def areaOfCircle (radius):
if (radius<=0):
return "Error: radius <=0"
pi = 3.1415
area = pi(radius*2)
return area
user_radius = input("Enter the radius: ")
radius = float(user_radius)
print ("The area of the circle is",
areaOfCircle(radius))
```

### Function

print()	show information that you want on the screen
int()	change number to be number integer
float()	change number too be decimal number
Input()	gain information from user
str()	a list of number, letter and symbols
len()	the length of the string

### Function (cont)

# comment, no effect

### function

```
_var1 = 1
_var1 = 3
_var1 + 100
print(_var1)
def bacon(): #use the keyword def
and end with a colon:
    print("hello it's bacon")
    return
bacon()
bacon()
bacon()
bacon()
bacon()
def bacon():
    print("hello it's bacon")
    print("line 2")
    print("line 3")
    print("line 4")
    print("line 5")
    print("line 6")
    print("line 7")
    print("line 8")
    return
bacon()
bacon()
bacon()
def myprint(text): #single
parameter
    print (" " + str(text) + " ")
    return
myprint (1)
myprint ("hello")
myprint (1+2)
def myprint2(text, decoration):
    print(decoration + str(text) +
decoration)
    return
myprint2(12312321312, "++++")
myprint2("hello", "<<<>>")
def doubleIt(number):
```

### function (cont)

```
    return number * 2
myvar = 2
myvarDouble = doubleIt(myvar)
print(doubleIt("hello"))
myvar = doubleIt(doubleIt(3)) #same
as doubleIt(6)
print(myvar)
def sumIt(num1, num2):
    return num1 + num2
print(sumIt("a", "b"))
print(sumIt(2,3))
def areaOfCircle (radius):
    pi = 3.1415
    area = pi * radius*2
    return area
user_radius = input('Enter the
radius: ')
radius = float(user_radius)
print("The area of the circle is",
areaOfCircle(radius))
def areaOfCircle(r):
    if r <= 0:
        return "Error: radius <= 0"
    pi = 3.1415
    area = pi * r * 2
    return area
user_radius = input("Enter the
radius: ")
radius = float(user_radius)
print ("The area of the circle is",
areaOfCircle(radius))
```

### Math

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

### list

```
import random
intlist = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]
random_int = random.choice(intlist)
print(intlist,random_int)
fplist = [0.1, 0.2, 0.3, 0.4, 0.5, 0.6]
random_fp = random.choice(fplist)
print(fplist,random_fp)
strlist = ["1","2","3","4","5","6","7","8","9"]
random_str = random.choice(strlist)
print(strlist,random_str)
mylist =
["adam","mild","loveadam","levine","3","4.6",424,
674,5.733]
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)
```

### shopping list

```
shoppinglist = ['salmon', 'bacon', 'water', 'jelly',
'ham']
print(shoppinglist)
list_num = 0
while list_num < len(shoppinglist):
    print("List:",shoppinglist[list_num])
    list_num = list_num + 1
for item in shoppinglist:
    print(item)
numbers = range(120)
for num in numbers:
    print(num)
```

### convert to int

```
user_word = input("Please enter a number")
number = int(user_word)
print(number * 10)
```

### random

```
import random
mylist = ['mild', 'stamp', 'nae', 'mint']
print(mylist[0])
counter = 0
while counter < 10:
    random_item = random.choice(mylist)
    print(random_item)
    counter = counter + 1
```

