

## Vocabulary

Variable	holds a value and can be change
String	a list of characters such as number, letters, symbol
Integer number	whole number/counting number
Floating number	the number in decimal
Syntax	grammar/structure of language
Modulo	find the remainder
Boolean	true/false

## Conditional

if.....	If the statement is true then do
then.....	command under then else do
else.....	command under else
while.....	While this is true loop the command under the conditional

## Naming Conventions

### Rules for naming variable:

- letters
- numbers
- can start with letters or underscores ONLY
- underscores (\_)
- NO SPACES

### Valid names:

- \_mystr
- my3

Hello\_there

### Invalid names:

- 3my= "hi" -- cannot start with number

## Naming Conventions (cont)

- first name = "hi" -- no spaces allowed
- first-name -- dashes are not accepted

## palindrome

```
reverse = ""
letter_num = 0
word = input('type in a word: ')
while letter_num < len(word):
    reverse = word[letter_num] +
reverse
    letter_num = letter_num + 1
if reverse == word:
    print ('it is palindrome')
else:
    print ('it is not
palindrome')
```

## maxvalue

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

    return maxvalue
print (max2(4,5))
print (max2(33,5))
def max3(num1,num2,num3):
    maxvalue = num1
    if num2 > maxvalue:
        maxvalue = num2
    if num3 > maxvalue:
        maxvalue = num3

    return maxvalue
print (max3(1,2,3))
```

5  
33  
3

## Function

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

## Math

==	equal to
!=	not equal to
<	less than
>	more than
<=	less than or equal to
>=	more than or equal to
%	Modulo, Find the remainder
+	add
-	subtract
*	multiply
/	divide
**	exponent

## Function

```
def printDefinitions():
    if word == "variable":
        print("""variable is value that
you can change""")
    elif word == "function"
        print("""function is is define
a box of code""")
    elif word == "parameter"
        print("""parameter is a valuve
of number that you give to the
function""")
```



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Page 1 of 3.

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## Function (cont)

```
elif word == "argument"
    print("""argument is set of
somethings that you give to the
function""")
elif word == "function call"
    print("""function call is when
you call the function and it will
run""")
elif word == "string"
    print("""string is anything you
can put""")
else:
    print("unknown word")
return
while True:
    user_input = input("Enter
word:")
    printDefinition(user_input)
```

## maxlist

```
def maxlist(list):
    maxvalue = list[0]
    for item in list:
        if item > maxvalue:
            maxvalue = item
    return maxvalue
mylist = [1,2,3,4,55,66,777,0,1]
print(maxlist(mylist))
```

777

## exercise 2 odd

```
#Receives input from the user,
converts it to an integer and
prints the product of the integer
user_number = int(input("Enter a
number"))
print(user_number*5)
#prints all the even numbers from -
100 to -1 using while loop
user_number = -100
while user_number < -1:
```

## exercise 2 odd (cont)

```
print(user_number)
user_number = user_number +2
#print all the item using a loop
mylist = ['cokezero', 'bacon',
'pesi']
for item in mylist:
    print(item)
#areaOfEllipse()
def areaOfEllipse(radius1,
radius2):
    pi = 3.145
    area = pi radius1 radius2
    return area
#function call
area1 = areaOfEllipse(2,3)
print(area1)
#The user enters a negative
interger, exit the loop and print
how many of the num enter were even
and odd
evencount = 0
oddcount = 0
While True:
    num = int(input("Enter a
positive integer"))
    if num < 0:
        print("Enter numbers:",
evenCount)
        print("Odd numbers:",
oddcount)
        break
    else:
        if(num % 2) == 0
            evenCount = evencount
+ 1
        else:
            oddCount = oddCount +
1
```

## Additional

string + string	squishes them together
string + number	crash
number + number	math(addition)

## Multiplication & Exponents

string * string	CRASH!!!
string *	combines the strings
number	multiple time
number * number	math (multiply)
string ** number	math (multiply)CRASH!!!
number ** number	exponent (Math)
string ** number	CRASH!!!

## Import Random

```
import random
intlist = [5,10,15,20,25]
random_int =
random.choice(intlist)
print (random_int)
fplist = [1.1,2.2,3.3,4.4,5.5]
random_fp = random.choice(fplist)
print (random_fp)
strlist =
['rat','cat','fat','mat','sat']
random_str =
random.choice(strlist)
print (random_str)
mylist = ['blue', 'green',
'yellow', 'red', 'pink']
random_item =
random.choice(mylist)
print(random_item)
myvar1 = 1
myvar2 = 2
myvar3 = 3
varlist = [myvar1, myvar2, myvar3]
random_var =
random.choice(varlist)
print (varlist, random_var)
```



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Page 2 of 3.

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### def areaofcircle

```
def areaofcircle(r):
    if r <= 0:
        return "Error: invalid radius"

    pi = 3.1415
    area = pi * r * r

    return area #return the area of the circle
user_radius = float (input("Enter the radius: "))
print('The area of the circle is',
      areaofcircle(user_radius))
```

### areaoftriangle

```
def areaofcircle(radius):
    if radius <= 0:
        return "Error: invalid raadius"

    pi = 3.1415
    area = pi * (radius*radius)

    return area

user_radius = float(input("Enter the radius: "))
print('The area of the circle is',
      areaofcircle(user_radius))

Enter the radius: 2
The area of the circle is 12.566

Enter the radius: 0
The area of the circle is Error: invalid raadius
```



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Page 3 of 3.

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