

Vocabulary

Variable Hold a value and 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

Function

print() Show the 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

Forever While Loop

```
while True: # forever
    use r_input =
input( 'Enter a number: ')
    number = int(us er_ -
input)
    print ('The number
squared is', number ** 2)
```

Conditional While Loop

```
count = 0 # start at zero
while count < 10: # loop while
count is less than 10
    pri nt( count) #will
print numbers 0 - 9
    count = count + 1 # must
increase count
```

Lists

Lists (cont)

> mylist.append(5) # adds an item to the end of the list

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!

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)

Convert number to hexadecimal

Convert number to hexadecimal (cont)

```
> elif remainder == 15:
    remainder = 'F'
    hex_string = str(remainder) +
hex_string #remainder + hex string
    number = number // 16#must use //
when you divide
    #after the loop print the hex string
    print ("Hexadecimal string is 0x" +
hex_string)
    #expected output - 5 = 101
    #excepted output - 3 = 11
    #excepted output - 2 = 10
```

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)
```

Create function

```
# how to create a function
def nameOf Fun ction (myvar1,
myvar2): # parameters or argu
ments
    print ("he llo ") #must
indent each line that is part of
the function
    return myvar1 + myvar2
# function call
nameOf Fun ction ('hi', 'there')
# a value for each argument
#write a function
# name : areaOf Tri angle
# parameters : base height
# return : area
def areaOf Tri angle (base,
height):
    area = 0.5*ba se* -
height
    return area
```

```
mylist = [2,3,4,5] # create a
list
#select an item from a list
print (mylist[0]) #selects
first item and displays 2
# len() determines the length of
the list
print (len(mylist)) # displays
4
```

```
while True:
#get a number from the user
    use_number =
input( " Please enter a number:
")
    #convert to integer
    number = int(user_
number)
    hex_string = ''
    while (number > 0):#the
number is greater than 0)
        remainder =
number % 16 #use Modulo %
        if remainder ==
10:
            rem_
ainder = 'A'
        elif remainder ==
11:
            rem_
ainder = 'B'
        elif remainder ==
12:
            rem_
ainder = 'C'
        elif remainder ==
13:
            rem_
ainder = 'D'
        elif remainder ==
14:
            rem_
ainder = 'E'
```



By **ttoey**
cheatography.com/ttoey/

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Decision Making/Conditional Statements

```
if 3 < 2: #if statement must
compare two Booleans
    print ('3 is less than
2')
elif 4 < 2: #can have 0 or more
elif statements
    print ('4 is less than
2')
elif 5 < 2:
    print ('5 is less than
2')
else: #can have 0 or 1 else
statement at the end
    print ('none of the
above are True')
```



By **ttoeyds**
cheatography.com/ttoeyds/

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