Math

+	plus
-	minus
*	multiply
/	divide give decimal
==	equal to
!=	not equal to
<	less than
>	more than
<=	less than or equal to
>=	more than or equal to
%	to find remainder
**	power
//	divide give integer

Binary

```
user_number = input("Enter number
to convert to binary : ")
number = int(user_number)
binary_string = ''
while (number > 0):
    remainder = number % 2
    binary_string = str(remainder)
+ str(binary_string)
    number = number // 2
print ("Binary string
is",binary_string)
```

Radius pi

```
while True:
    user_radius = input("Please
enter the radius of the circle")
    radius = float(user_radius)
    pi = 3.1415
    area = pi radius*2
```

Radius pi (cont)

```
    print ("The area of the circle
is", area)
```

==

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

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

Multiplication and Exponent

string * number	Repeat that string by number
string * string	CRASH!
number * number	Multiply (Math)
string ** string	CRASH!
number ** number	Exponent (Math)

Multiplication and Exponent (cont)

string ** number	CRASH!

```
String * Number
num = 1
stri = str(num)


print (stri * 3)
_____
#After running program
111
```

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)
```

Math

```
print(2)#interger
print(2.5)#floationg point
print("this is a string")#string
myStr = "hello"
print (myStr)
print ("hello" , 1, 2)
print ("""
hello
yeah
.
.
.
.
""")
"""
This multi line comment #lol
"""
#variable name
#can have interger,
lowercase/uppercase letters,
underscores
#Mate operators
# + - / *
#exponents
#2 to the power of 3
print (2 2 2 )
print (2 ** 3)
#Modulo/Remainder
print (4%2) #remainder = 0
print (33%2) #remainder = 1
#convert to floating point
print (float(2))
#covert to a string
```

Math (cont)

```
myint = 1
mystring = str(myint)
print (mystring * 3)
#true/false - Boolean
print (2 < 3)
```

Addition

string + string	Combination of string
string + number	CRASH!
number + number	Add (Math)

Reverse

```
word = input("Please put a word :")
reverse = ""
letternum = 0
while letternum < len(word):
    reverse = (word[letternum]) +
reverse
    letternum = letternum + 1
print ("Reverse: ",reverse)
for num in word:
    reverse = num + reverse
print ("Reverse: ",reverse)
```

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:
```

Guess (cont)

```
        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
```

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)
```