

### Addition

string + string	combine togeth
string + number	crash
number + number	math-addition

### Multiplication and Exponents

string * number	combine that string multiple times
string * string	crash
number *	math - multiply
number	
string ** string	crash
number ** number	

### Conditionals

if	If the statement is true then do
else	command under then else do command under else.
elif	Similar to if else, but elif allows for more conditions (The keyword 'elif' is short for 'else if')
for	For loop will loop though every element of the set of elements
while	Loop Contains 3 basic parts: 1. initial value 2. ending condition 3. update

### Convert to binary Python (cont)

```

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)

```

### User input

```
user_input = input("Enter a value: ")
```

### Function

print() Show 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  
 # Comment, no effect

### code

```

print (name.upper())
print (name.lower())
print (name.capitalize())
print (name.title())

```

### Example

Print (2)	integer
Print (2.5)	floating point
Print ("Hello")	string
Print (mystr)	variable
print (int(1.5)) = 1	print (int("2")) = 2
Modulo/Remainder %	
print (4%2) → 0	print (30%7) → 2

### Area of circle Python

```

#Ask the user for a radius of a circle
while True:
    user_radius = input("Please enter the radius of the circle:")
    radius = float(user_radius)
    pi = 3.1415
    area = (piradius*2)
    print("The area of the circle is", area)

```

### Vocabulary

variable	holds a value and can be changed
string	a list of characters such as numbers, letters, symbols
Floating point	decimal number
Integer	is a whole number (not a fractional number) that can be positive, negative, or zero
Boolean	True or false
*	Called star or asterix symbol
( )	Called index
**	power
<	less than
>	more than
<=	less than or equal
>=	more than or equal
=	operator / assigns a value
==	compare two values Answer is True or fulse
!=	no equal to
%	modulo, find the remainder
function	blocks of reusable code
Constants	Data stored in memory that cannot be changed after declaration
Compile	Run the program
Debug	Check the program for errors
syntax	Grammar/Structure of language

### 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)

```