

### Addition

|                 |                  |
|-----------------|------------------|
| string + String | combine together |
| string + number | crash            |
| number + number | math - addition  |

### Functions

|         |                                      |
|---------|--------------------------------------|
| print() | displays information on the screen   |
| float() | change number to be decimal number   |
| int()   | change number to number integer      |
| int()   | gain information                     |
| str()   | a list of number, letter and symbols |

### Code

```
name = " Natnicha Wangchinda "
print (name.upper())
print (name.lower())
print (name.capitalize())
print (name.title())
```

### Counts down

```
#create a program that receives
a number from the user and count
down from that number on the
same line
#receive the number from the
user as a string
user_number = input ("enter
number ")
#convert the user number to an
integer
number = int(user_number)
#setup the countdown string
countdown_string = " "
while number > 0:
```

### Counts down (cont)

```
> #add the number to the string
#subtract 1 from the number
```

### code

```
#write a program the converts a
number to binary
#get a number from the user
user_number = input( " Please
enter a number: ")
#convert to integer
number = int(user_number)
binary_string = ''
while (number > 0):#the numberer
is greater than 0)
    remainder = number % 2
    binary_string =
str(remainder) + binary -
_string
    number = number // 2
    print( number)
    #print (number)
#after the loop print the binary
string
print ("Binary string is",
binary_string)
#expected output - 5 = 101
#expected output - 3 = 11
#expected output - 2 = 10
```

### Multiplication and Exponents

|                  |                     |
|------------------|---------------------|
| string * string  | crash               |
| string * number  | combine that string |
| number * number  | math - multiply     |
| string ** string | crash               |
| number ** number | math - exponent     |
| string ** number | crash               |

### code

```
while True:
    use_radius =
input( "What is the radius ?")
    radius = float( use -
radius)
    pi = 3.1415
    area = pi radius * 2
    print ("The area of the
circle is", area)
```

### code

```
mystring = "hello"
print (mystring)
firstname = input ("What is your
first name?")
lastname = input ("What is your
last name?")
fullname = firstname + " " +
lastname
print (fullname)
letter_number = int(input( "What
is letter number? "))
if letter_number > len(full -
name):
    print ( " invalid letter
number, try again! " )
else:
    letter = (fullname -
[letter_number] )
    print ( letter )
    number_letter =
int(input( " How many times to
print letter? "))

    if number_letter > 100:
        print ( " Too
many letters to print! ")
    else:
        print ( letter
* number_letter )
```

### code

```
def createList(quitword):
    mylist = []
    while True:
        item = input("Please enter a list item: ")
        if (item == quitword):
            return mylist
        duplicateword = False
        for myvar in mylist:
            if myvar == item:
                duplicateword = True
            if duplicateword == True:
                print('Duplicate word!')
            else:
                mylist.append(item)
        mylist = createList("stop")
    print(mylist)
```

### Vocabulary

|                |                                                        |
|----------------|--------------------------------------------------------|
| Variable       | hold a value and can be change                         |
| string         | a list of character such as number,letter, and symbols |
| integer number | whole number or counting number                        |
| float number   | the number in decimal                                  |
| syntax         | gramma or structure of language                        |
| value          | the number os string can be store in valuable          |

### Vocabulary (cont)

|              |                                      |
|--------------|--------------------------------------|
| module       | the text for storing for python code |
| input        | gain information                     |
| print        | to show information on the screen    |
| syntax error | make impossible to the parse error   |

### code

```
# Create a program that recieve a number from the user
# from that number on the same line
#recieve the number from the user as a string
user_number = input
#convert the user number to an integer
number = int(user_number)
#setup the countdown string
countdown_string = ""
while number > 0:#the number is greater than 0)
    remainder =
    print (number)
    #binary string =
#output should look like this
# if the user enters 5:
# 5 4 3 2 1
print (countdown_string)
```

### Math

|    |                       |
|----|-----------------------|
| +  | plus                  |
| -  | minus                 |
| *  | multiple              |
| /  | divide                |
| %  | remainder (4%2)-> 0   |
| ** | exponent 2**3->2^3    |
| == | equal to              |
| != | no equal to           |
| <  | less than             |
| >  | more than             |
| <= | less than or equal to |
| >= | more than or equal to |