Lab 2

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OPTION 1 - Script Runs

In [2]:
```
first = 'Sue'
last = 'Wong'
name = first + ' ' + last
name
```

Out[2]:
```
'Sue Wong'
```

In [3]:
```
x = 3
y = 5
print('The sum of', x, 'plus', y, 'is', x+y)
```

```
The sum of 3 plus 5 is 8
```

In [4]:
```
sillyTest = '''Say,
"I’m in!"
This is line 3'''
print(sillyTest)
sillyTest
```

```
Say,
"I’m in!"
This is line 3
```

Out[4]:
```
'Say, \n"I’m in!" \nThis is line 3'
```

In [6]:
```
applicant = input("Enter the applicant’s name: ")
interviewer = input("Enter the interviewer’s name: ")
time = input("Enter the appointment time: ")
print(interviewer, "will interview", applicant, "at", time)
```

```
Enter the applicant’s name: Sahiti
Enter the interviewer’s name: Manasa
Enter the appointment time: 2PM
Manasa will interview Sahiti at 2PM
```

In [7]:
```
x = input("Enter an integer: ")
y = input("Enter another integer: ")
print('The sum of ', x, ' and ', y, ' is ', x+y, '.', sep='')
```

```
Enter an integer: 8
Enter another integer: 2
The sum of 8 and 2 is 82.
```

In [8]:
```
xString = input("Enter an integer: ")
x = int(xString)
yString = input("Enter another integer: ")
y = int(yString)
print('The sum of ', x, ' and ', y, ' is ', x+y, '.', sep='')
```

```
Enter an integer: 12
Enter another integer: 2
The sum of 12 and 2 is 14.
```

In [9]:
```
person = input('Enter your name: ')
greeting = 'Hello {}!'.format(person)
print(greeting)
```

```
Enter your name: Sahiti
Hello Sahiti!
```

In [11]:
```
applicant = input("Enter the applicant’s name: ")
interviewer = input("Enter the interviewer’s name: ")
time = input("Enter the appointment time: ")
print(interviewer + ' will interview ' + applicant + ' at ' + time +'.')
print(interviewer, ' will interview ', applicant, ' at ', time, '.',
sep='')
print('{} will interview {} at {}.'.format(interviewer, applicant, time))
print('**********')
print('{0} will interview {1} at {2}.'.format(interviewer, applicant,
time))
```

```
Enter the applicant’s name: Sahiti
Enter the interviewer’s name: Manya
Enter the appointment time: 3PM
Manya will interview Sahiti at 3PM.
Manya will interview Sahiti at 3PM.
Manya will interview Sahiti at 3PM.
**********
Manya will interview Sahiti at 3PM.
```

In [13]:
```
a = 5
b = 9
formatStr = 'The set is {{{}, {}}}.'
setStr = formatStr.format(a, b)
print(setStr)
```

```
The set is {5, 9}.
```

In [17]:
```
def happyBirthday(person):
    print("Happy Birthday to you!")
    print("Happy Birthday to you!")
    print("Happy Birthday, dear " + person + ".")
    print("Happy Birthday to you!")

happyBirthday('Emily')
happyBirthday('Andre')
```

```
Happy Birthday to you!
Happy Birthday to you!
Happy Birthday, dear Emily.
Happy Birthday to you!
Happy Birthday to you!
Happy Birthday to you!
Happy Birthday, dear Andre.
Happy Birthday to you!
```

In [19]:
```
def lastFirst(firstName, lastName):
    separator = ', '
    result = lastName + separator + firstName
    return result

print(lastFirst('Benjamin', 'Franklin'))
print(lastFirst('Andrew', 'Harrington'))
```

```
Franklin, Benjamin
Harrington, Andrew
```

In [21]:
```
PI = 3.14159265358979
def circleArea(radius):
      return PI*radius*radius
def circleCircumference(radius):
      return 2*PI*radius

print('circle area with radius 5:', circleArea(5))
print('circumference with radius 5:', circleCircumference(5))
```

```
circle area with radius 5: 78.53981633974475
circumference with radius 5: 31.4159265358979
```

In [23]:
```
def createDictionary():
    '''Returns a tiny Spanish dictionary'''
    spanish = dict() # creates an empty dictionary
    spanish['hello'] = 'hola'
    spanish['yes'] = 'si'
    spanish['one'] = 'uno'
    spanish['two'] = 'dos'
    spanish['three'] = 'tres'
    spanish['red'] = 'rojo'
    spanish['black'] = 'negro'
    return spanish

def main():
    dictionary = createDictionary()
    print(dictionary['two'])
    print(dictionary['red'])

main()
```

```
dos
rojo
```

In [24]:
```
numberFormat = "Count in Spanish: {one}, {two}, {three}"
withSubstitutions = numberFormat.format(one='uno', two='dos', three='tres')

print(withSubstitutions)
```

```
Count in Spanish: uno, dos, tres
```

In [25]:
```
x = 20
y = 30
sum = x+y
prod = x*y
formatStr = '{x} + {y} = {sum}; {x} * {y} = {prod}.'
equations = formatStr.format(**locals())
print(equations)
```

```
20 + 30 = 50; 20 * 30 = 600.
```

In [26]:
```
person = input('Enter your name: ')
greeting = 'Hello {person}!'.format(**locals())
print(greeting)
```

```
Enter your name: Sahiti
Hello Sahiti!
```

In [30]:
```
for count in [1, 2, 3]:
    print(count)
    print('Yes' * count)
```

```
1
Yes
2
YesYes
3
YesYesYes
```

In [31]:
```
n = int(input('Enter the number of times to repeat: '))
for i in range(n):
     print('This is repetitious!')
```

```
Enter the number of times to repeat: 3
This is repetitious!
This is repetitious!
This is repetitious!
```

In [32]:
```
items = ['red', 'orange', 'yellow', 'green']
number = 1
for item in items:
    print(number, item)
    number = number + 1
```

```
1 red
2 orange
3 yellow
4 green
```

In [33]:
```
def numberList(items):
    '''Print each item in a list items, numbered in order.'''
    number = 1
    for item in items:
        print(number, item)
        number = number + 1

def main():
    numberList(['red', 'orange', 'yellow', 'green'])
    print()
    numberList(['apples', 'pears', 'bananas'])
main()
```

```
1 red
2 orange
3 yellow
4 green

1 apples
2 pears
3 bananas
```

Printing 8-bit Binary Numbers

In [35]:
```
def printEightBitBinary(n, num):
    if(n > 0):
        num[8-n] = '0'
        printEightBitBinary(n-1, num)
        num[8-n] = '1'
        printEightBitBinary(n-1, num)
    else:
        print(''.join(num))

printEightBitBinary(8, ['0','0','0','0','0','0','0','0'])
```

00000000
00000001
00000010
00000011
00000100
00000101
00000110
00000111
00001000
00001001
00001010
00001011
00001100
00001101
00001110
00001111
00010000
00010001
00010010
00010011
00010100
00010101
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00011000
00011001
00011010
00011011
00011100
00011101
00011110
00011111
00100000
00100001
00100010
00100011
00100100
00100101
00100110
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01101111
01110000
01110001

01110010
01110011
01110100
01110101
01110110
01110111
01111000
01111001
01111010
01111011
01111100
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11110000
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11110100
11110101
11110110
11110111
11111000
11111001
11111010
11111011
11111100
11111101
11111110
11111111