Raul Rodriguez

HW2_1.py > ...

```python
'''
Exercise 1
Implement Newton's algorithm for computing the square root of a positive integer given by
the user. Use a precision (threshold) value of 0.00000001
Note: See slide 56 for Newton's algorithm
'''
num1 = int(input("Enter a number to find the square root of "))
root = num1
while True:
    precision = root
    root = (root+(num1/root))/2
    if (precision - root) >= .00000001 :
        continue
    else:
        break
print("The root of input number is",root)

```

```
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython % /usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_1.py
Enter a number to find the square root of 100
The root of input number is 10.0
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython %
```

HW2_2.py > ...

```python
'''Exercise 2
Ask user to enter a string, e.g., Computer Science; then ask user to enter a single character,
e.g., e. Pass both strings to function myFind and print the index at which the character appears
in the string. In addition, print the number of occurrences of the character in the string'''
def myFind(str1,char):
    sum=0
    for i in range(len(str)):
        if char==str[i]:
            print("character",char,"found at index ",i)
            sum+=1
    print("character",char,"found ",sum,"times in the string")
str1 = input("enter a string ")
char = input("enter a character to find in string ")
myFind(str1,char)
```

```
/usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_2.py
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython % /usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_2.py
enter a string computer science is cool
enter a character to find in string s
character s found at index  9
character s found at index  18
character s found  2 times in the string
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython %
```

```python
'''
Exercise 3
Ask user to enter a string, e.g., Computer Science is an amazing field of study. Pass string
to function countWords and return to the main program the number of words in the string
'''
def countWords(str1):
    count = 1
    for i in str1:
        if i==' ':
            count+=1
    return count
str1 = input("Enter a complete sentence ending with '.' ")
count = countWords(str1)
print("total number of words is",count)
```

```
/usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_3.py
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython % /usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_3.py
Enter a complete sentence ending with '.' My name is Raul Rodriguez.
total number of words is 5
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython %
```

```python
'''
Exercise 4
Ask user to enter a string, e.g., Computer Science, convert it to a list using the list() function,
i.e., list(myStr), and pass the list to function myToUpper. Inside the function, convert any lower
case characters to upper case and print the entire list
Note: Use the ord() function, e.g., ord('c') to get the ASCII value of a single character and the
chr() function, e.g., chr(67) to get the character given the ASCII value
'''
def myToUpper(str2):
    for i in range(len(str2)):
        if ord(str2[i]) >= 97 and ord(str2[i]) <= 122:
            str2[i]=chr(ord(str2[i])-32)
    print(str2)
str1 = input("Enter a string ")
str2 = list(str1)
myToUpper(str2)
```

```
/usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_4.py
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython % /usr/local/bin/python3 /Users/raulrodriguez/Documents/WorkSpaceVSPython/HW2_4.py
Enter a string my name is raul rodriguez
['M', 'Y', ' ', 'N', 'A', 'M', 'E', ' ', 'I', 'S', ' ', 'R', 'A', 'U', 'L', ' ', 'R', 'O', 'D', 'R', 'I', 'G', 'U', 'E', 'Z']
raulrodriguez@Rauls-MacBook-Air WorkSpaceVSPython %
```