Square of n numbers

```
>>> digit=int(input("Enter a number:"))
Enter a number:3
>>> square=digit*digit
>>> print(f"square of {digit} is {square}")
square of 3 is 9
```

Form a list of vowels selected from a given word

```
>>> string="python programming"
>>> print("Given string:\n",string)
Given string:
 python programming
>>> vowels="AaEeIiOoUu"
>>> res=set([each for each in string if each in vowels])
>>> print("The vowels present in the string:\n",res)
The vowels present in the string:
 {'o', 'i', 'a'}
```

Accept the radius from user and find area of circle

```
>>> from math import pi
>>> r=float(input("Enter radius of circle:"))
Enter radius of circle:5
>>> print("Area of the circle is:" +str(pi*r**2))
Area of the circle is:78.53981633974483
```

Accept an integer n and compute n+nn+nnn.

```
>>> i=int(input("Enter an integer number:"))

Enter an integer number:4

>>> num=i+((i*10)+i)+((i*100)+(i*10)+i)

>>> print(num)

492
```

Sort dictionary in ascending and descending order.

```
>>> y={'carrot':40,'apple':2,'banana':1,'doll':3}

>>> l=list(y.items())

>>> l.sort()

>>> print('Ascending order is',l)

Ascending order is [('apple', 2), ('banana', 1), ('carrot', 40), ('doll', 3)]

>>> list(y.items())

[('carrot', 40), ('apple', 2), ('banana', 1), ('doll', 3)]

>>> l.sort(reverse=True)

>>> print('Descending order is',l)

Descending order is [('doll', 3), ('carrot', 40), ('banana', 1), ('apple', 2)]
```

Merge two dictionaries

```
>>> def Merge(dict1,dict2):

        return(dict2.update(dict1))

>>> dict1={'apple':10,'banana':8}

>>> dict2={'orange':4,'grape':6}
```

```
>>> print(Merge(dict1,dict2))

None

>>> print(dict2)

{'orange': 4, 'grape': 6, 'apple': 10, 'banana': 8}
```

Find gcd of 2 numbers.

```
>>> import math

>>> print(math.gcd(40,25))

5
```

Enter 2 lists of integers. Check Whether list are of same length , list sums to same value, whether any value occur in both

```
>>> from collections import defaultdict

>>> def areEqual(arr1, arr2, n, m):

        if (n != m):

                return False

        count = defaultdict(int)

        for i in arr1:

                count[i] += 1

        for i in arr2:

                if (count[i] == 0):

                        return False

                else:

                        count[i] -= 1

        return True


>>> arr1 = [3, 5, 2, 5, 2]
```

```
>>> arr2 = [2, 3, 5, 5, 2]

>>> n = len(arr1)

>>> m = len(arr2)

>>> if (areEqual(arr1, arr2, n, m)):

        print("Yes")

else:

        print("No")
Yes


>>> list1=[3, 5, 2, 5, 2]

>>> list2=[2, 3, 5, 5, 2]

>>> if set(list1).intersection(list2):

    print ('Lists have elements in common')

else:

    print ('No elements in common')
Lists have elements in common
```

Store a list of first names. Count the occurrences of 'a' within the list

```
>>> Alist=["a","b","a","c","a"]

>>> ele='a'

>>> print("Given List:\n",Alist)
Given List:
 ['a', 'b', 'a', 'c', 'a']
>>> print("Given Element:\n",ele)
```

Given Element:

 a

>>> cnt=Alist.count('a')

>>> print("No of times the element is present in list:\n",cnt)

No of times the element is present in list:

 3

Count the occurrences of each word in a line of text

```
>>> def word_count(str):

    counts = dict()

    words = str.split()

 for word in words:

     if word in counts:

        counts[word] += 1

     else:

        counts[word] = 1

 return counts
```

>>> print(word.count("Donot watch the clock,Do what it does keep going"))

{'Donot': 1, 'watch': 1, 'the': 1, 'clock,Do': 1, 'what': 1, 'it': 1, 'does': 1, 'keep': 1, 'going': 1}

Display future leap years from current year to a final year entered by user.

>>> import calendar

```
>>> def loop_year(year, number_of_years):

    leap_year_counter = 0

    while leap_year_counter < number_of_years:
```

```python
    if calendar.isleap(year):

        print('{} is a leap year!'.format(year))

        leap_year_counter += 1

    year += 1
```

```
>>> loop_year(2016, 20)

2016 is a leap year!

2020 is a leap year!

2024 is a leap year!

2028 is a leap year!

2032 is a leap year!

2036 is a leap year!

2040 is a leap year!

2044 is a leap year!

2048 is a leap year!

2052 is a leap year!

2056 is a leap year!

2060 is a leap year!

2064 is a leap year!

2068 is a leap year!

2072 is a leap year!

2076 is a leap year!

2080 is a leap year!

2084 is a leap year!

2088 is a leap year!

2092 is a leap year!
```

Create a string from given string where first and last characters exchanged.

```
>>> def change_sring(str1):

    return str1[-1:] + str1[1:-1] + str1[:1]

>>> print(change_sring('abcd'))

dbca
```

Get a string from an input string where all occurrences of first character replaced with '$', except first character.

```
>>> def change_char(str1):

 char = str1[0]

 str1 = str1.replace(char, '$')

 str1 = char + str1[1:]

 return str1

>>> print(change_char('restart'))

resta$t
```