From a list of integers, create a list removing even numbers.

```
>>> list = [1,2,3,4,5,6,7,8,9,10]
>>> print ("Original list:")
Original list:
>>> print (list)
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
>>> for i  in list:
        if(i%2 == 0):
            list.remove(i)
>>> print ("list after removing EVEN numbers:")
list after removing EVEN numbers:
>>> print (list)
[1, 3, 5, 7, 9]
```

Factorial of a number

```
>>> number = int(input(" Please enter any Number to find factorial : "))
 Please enter any Number to find factorial : 5
>>> fact = 1
>>> i = 1
>>> while(i <= number):
        fact = fact * i
        i = i + 1
>>> print("The factorial of %d  = %d" %(number, fact))
    The factorial of 5  = 120
```

Fibonacci Series

```
>>> n=int(input("Enter the value of 'n':"))
Enter the value of 'n':5
>>> a=0
>>> b=1
>>> sum=0
>>> count=1
>>> print("Fibonacci Series:",end="")
Fibonacci Series:
>>> while(count<=n)
SyntaxError: invalid syntax
>>> while(count<=n):
        print(sum,end="")
        count+=1
        a=b
        b=sum
        sum=a+b
01123
```

Sum of all items in a list

```
>>> total=0
>>> list1=[12,8,32,15,9]
>>> for ele in range(0,len(list1)):
         total=total+list1[ele]
 >>> print("Sum of all elements in given list:",total)
```

Sum of all elements in given list: 76

Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square.

```
>>>def call():
    n = 0
    for x in range(1000,10000,1):
        num=str(x)
        number=int(x)
        first = int(num[0])
        second = int(num[1])
        third = int(num[2])
        fourth = int(num[3])
        if first%2==0:
            if second%2==0:
                if third%2==0:
                    if fourth%2==0:
                        for i in range(2,number):
                            if i*i==number:
                                print(number)


    >>> call()
4624
6084
6400
8464
```

Number pyramid

```
>>> currentNumber = 1
>>> rows = 4
>>> stop = 2
>>> for i in range(rows):
    for column in range(1, stop):
                print(currentNumber, end=' ')
                currentNumber += 1
    print("")
    stop += 1
```

```
1
2 3
4 5 6
7 8 9 10
```

Count the number of characters (character frequency) in a string.

```
>>> def char_frequency(str1):
    dict={}
    for n in str1:
                keys=dict.keys()
                if n in keys:
                            dict[n]+=1
                else:
```

```
                dict[n]=1
    return dict

>>> print(char_frequency('python program'))
{'p': 2, 'y': 1, 't': 1, 'h': 1, 'o': 2, 'n': 1, ' ': 1, 'r': 2, 'g': 1, 'a': 1, 'm': 1}
```

Add ‘ing’ at the end of a given string. If it already ends with ‘ing’, then add ‘ly’

```
>>> def add_string(str1):
    length = len(str1)
    if length > 2:
            if str1[-3:] == 'ing':
                    str1 += 'ly'
            else:
                     str1 += 'ing'
    return str1
>>> print(add_string('program'))
programing
>>> print(add_string('programm'))
programming
>>> print(add_string('programing'))
Programingly
```

Accept a list of words and return length of longest word.

```
>>> def find_longest_word(words_list):
```

```
    word_len = []
    for n in words_list:
            word_len.append((len(n), n))
            word_len.sort()
    return word_len[-1][0], word_len[-1][1]
>>> result = find_longest_word(["Python", "PHP", "Java"])
>>> print("\nLongest word: ",result[1])
Longest word:  Python
>>> print("Length of the longest word: ",result[0])
Length of the longest word:  6
```

Star pyramid

```
>>> def star():
    rows=5
    for i in range(rows):
            for j in range(i):
                    print("*",end="")
            print(" ")
    for i in range(rows,0,-1):
             for j in range(i):
                     print("*",end="")
             print(" ")
  >>> star()

*
```

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Generate all factors of a number.

```
>>> number=int(input("Please enter any number:"))
Please enter any number:6
>>> value=1
>>> print("Factors of a given number {0} are:".format(number))
Factors of a given number 6 are:
>>> while(value<=number):
        if(number%value==0):
                print("{0}".format(value))
        value=value+1
```

1

2

3

6

Write lambda functions to find area of square, rectangle and triangle.

```
>>> s_area=lambda width,height:width*height
>>> print("Area of square(8,5) is:",s_area(8,5))
Area of square(8,5) is: 40
>>> r_area=lambda length,height:length*height
>>> print("Area of rectangle(10,20) is:",r_area(10,20))
Area of rectangle(10,20) is: 200
>>> t_area=lambda a,b,c:a*b*c
>>> print("Area of triangle(2,4,6) is:",t_area(2,4,6))
Area of triangle(2,4,6) is: 48
```