Q.Find the nos. upto 100 which is divisible by 3 but not by 9.

```
for m in range(1,100):
    if m % 3==0 and m % 9!=0:
        print(m)
```

Output:

```
3
6
12
15
21
24
30
33
39
42
48
51
57
60
66
69
75
78
84
87
93
96
```

Q. for i in range (2,5):

```
    print("Manu"*i)
```

Output:

```
ManuManu
ManuManuManu
ManuManuManuManu
```

Q.
```
for i in range (15):
    print(i*2)
```

Output:

```
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
```

Q.
```
def add_numbers(num1,num2):
    sum=num1+num2
    print("Sum:",sum)
add_numbers(5,8)
```

Output:

Sum: 13

Q. number=1

```
while number<200:
    print (number)
    number=number*2
```

Output:

```
1
2
4
8
16
32
64
128
```

Q.string=abcdabccdaaeffaa replace of a with x.

```
string="abcdabccdaaeffaa"
new_string=string.replace("a","x")
print(new_string)
```

Output:

```
Xbcdxbccdxxeffxx
```

Q. Display 1 to 50 no.bt after every 5th digit there should be hello msg.

```
for i in range(1, 50):
    if i % 5 == 0:
        print("Hello")
    else:
        print(i)
```

Output:

```
1
```

2

3

4

Hello

6

7

8

9

Hello

11

12

13

14

Hello

16

17

18

19

Hello

21

22

23

24

Hello

26

27

28

29

```
Hello
31
32
33
34
Hello
36
37
38
39
Hello
41
42
43
44
Hello
46
47
48
49
```

Q.

```
for i in range(1, 6):
    print(i,"squared is",i*i)
```

Output:

```
1 squared is 1
2 squared is 4
3 squared is 9
4 squared is 16
5 squared is 25
```

Q.Print table of 11 &12.

```
for i in range(1,11):
   print(11*i,12*i)
```

Output:

```
11 12
22 24
33 36
44 48
55 60
66 72
77 84
88 96
99 108
110 120
```

Q.

```
class Bike:
   name = ""
   gear = 0
bike1 = Bike()
bike1.gear = 11
bike1.name = "Mountain Bike"
print(f"Name: {bike1.name}, Gears: {bike1.gear}")
```

Output:

```
Name: Mountain Bike, Gears: 11
```

Q.

```
class Employee:
        employee_id = 0

employee1 = Employee()
employee2 = Employee()
```

```
employee1.employee_id = 1001
print(f"Employee ID: {employee1.employee_id}")

employee2.employee_id = 1002
print(f"Employee ID: {employee2.employee_id}")
```

Output:

```
Employee ID: 1001
Employee ID: 1002
```

Q.

```
class Room:
    length = 0.0
    breadth = 0.0

    def calculate_area(self):
        print("Area of Room =", self.length * self.breadth)

study_room = Room()

study_room.length = 42.5
study_room.breadth = 30.8

study_room.calculate_area()
```

Output:

```
Area of Room = 1309.0
```

Q. class University:

```
    cse = 0
    cy = 0
    aiml = 0

    aids = 0

    bcom = 0

    bba = 0

    mba = 0


university1 = University()

university1.cse = 100

university1.cy = 50

university1.aiml = 75

university1.aids = 20

university1.bcom = 120

university1.bba = 90

university1.mba = 80


print("SET")

print(f"CSE: {university1.cse}, CY: {university1.cy}, AIML: {university1.aiml}, AIDs: 
{university1.aids}")


print("SCM")

print(f"BCom: {university1.bcom}, BBA: {university1.bba}, MBA: {university1.mba}")
```

<u>Output:</u>

```
SET

CSE: 100, CY: 50, AIML: 75, AIDs: 20

SCM

BCom: 120, BBA: 90, MBA: 80
```

Q. import math

```
A = 16
```

```
print(math.sqrt(A))
```

Output:

```
4.0
```

Q. from math import sqrt, sin

```
A = 16

B = 3.14

print(sqrt(A))

print(sin(B))
```

Output:

```
4.0

0.0015926529164868282
```

Q. import numpy as np

```
arr = np.array([1, 2, 3])

print("Array with Rank 1: \n", arr)


arr = np.array([[1, 2, 3],

                [4, 5, 6]])

print("Array with Rank 2: \n", arr)


arr = np.array((1, 3, 2))

print("\nArray created using passed tuple:\n", arr)
```

Output:

```
Array with Rank 1:

 [1 2 3]

Array with Rank 2:

 [[1 2 3]

 [4 5 6]]
```

```
Array created using passed tuple:
 [1 3 2]
```

Q. import pandas as pd

```
import numpy as np


ser = pd.Series(dtype='float64')
print("Pandas Series: ", ser)


data = np.array(['g', 'e', 'e', 'k', 's'])


ser = pd.Series(data)
print("Pandas Series:\n", ser)
```

<u>Outtput:</u>

```
Pandas Series:  Series([], dtype: float64)
Pandas Series:
 0    g
1    e
2    e
3    k
4    s
dtype: object
```

Q. from scipy import stats

```
x = [5, 7, 8, 7, 2, 17, 2, 9, 4, 11, 12, 9, 6]
y = [99, 86, 87, 88, 111, 86, 103, 87, 94, 78, 77, 85, 86]


slope, intercept, r, p, std_err = stats.linregress(x, y)
```

```
print(r)
```

Output:

```
-0.758591524376155
```

Q. def add_numbers():

```
    a= int(input("Enter first numbers"))

    b= int(input("Enter second numbers"))

    sum=a+b

    print("Sum:",sum)

add_numbers()
```

Output:

```
Enter first numbers 5

Enter second numbers 4

Sum: 9
```

Q.find the sqaure of number using the function

```
def Square():

    a=int(input("Enter first number:"))

    b=a*a

    print("Square=",b)

Square()
```

Output:

```
Enter first number: 2

Square= 4
```

Q. write a program in python to print addition of all prime numbers using function

```
def is_prime(n):

    if n <= 1:

        return False

    for i in range(2, int(n**0.5)+1):

        if n % i == 0:
```

```
        return False
    return True
def get_prime_sum():
    total = 0
    for i in range(1, 101):
        if is_prime(i):
            total += i
    print("Sum of all prime numbers from 1 to 100 is:", total)
get_prime_sum()
```

Output:

```
Sum of all prime numbers from 1 to 100 is: 1060
```

Q. # Input: An integer number

```
num = int(input("Enter value for fact:"))
# Initialize the factorial variable to 1
factorial = 1
# Calculate the factorial using a for loop
for i in range(1, num + 1):
 factorial *= i
# Output: The factorial of the number
print(f"The factorial of {num} is {factorial}")
```

Output:

```
Enter value for fact:9
The factorial of 9 is 362880
```

Q. only if condition

```
a = 30
b = 200
if b > a:
 print("b is greater than a")
```

Output:

```
b is greater than a
```

Q. if-else condition

```
i = 20
if (i > 0):
 print("i is positive")
else:
 print("i is 0 or Negative")
```

Output:

```
i is positive
```

Q. slicing operator

```
my_list = ['p', 'r', 'o', 'g', 'r', 'a', 'm']
print("my_list =", my_list)
print("my_list[2: 5] =", my_list[2: 5])
print("my_list[2: -2] =", my_list[2: -2])
print("my_list[0: 3] =", my_list[0: 3])
```

Output:

```
my_list = ['p', 'r', 'o', 'g', 'r', 'a', 'm']
my_list[2: 5] = ['o', 'g', 'r']
my_list[2: -2] = ['o', 'g', 'r']
my_list[0: 3] = ['p', 'r', 'o']
```

Q.list example

```
fruits = ['apple', 'grapes', 'oranges']
print("Original List:", fruits)


fruits.insert(2, 'cherry')
print("After Insert:", fruits)
```

```
fruits.append('banana')

print("After Append:", fruits)


fruits.remove('apple')

print("After Remove:", fruits)


fruits.clear()

print("After Clear:", fruits)


fruits.extend('kiwi')

print("After Extend:", fruits)


fruits.sort()

print("After Sort:", fruits)


fruits.reverse()

print("After Reverse:", fruits)


copied_fruits = fruits.copy()

print("Copied List:", copied_fruits)


fruits.pop()

print("After Pop:", fruits)
```

Output:

```
Original List: ['apple', 'grapes', 'oranges']

After Insert: ['apple', 'grapes', 'cherry', 'oranges']

After Append: ['apple', 'grapes', 'cherry', 'oranges', 'banana']
After Remove: ['grapes', 'cherry', 'oranges', 'banana']

After Clear: []

After Extend: ['k', 'i', 'w', 'i']

After Sort: ['i', 'i', 'k', 'w']

After Reverse: ['w', 'k', 'i', 'i']

Copied List: ['w', 'k', 'i', 'i']

After Pop: ['w', 'k', 'i']
```

Q.

```
country_capitals = {"United States": "Washington D.C.","Italy": "Rome"}

for country in country_capitals:

 print(country)

print()

for country in country_capitals:

 capital = country_capitals[country]

 print(capital)
```

Output:

```
United States

Italy


Washington D.C.

Rome
```

Q. Calculator

```
def add(x, y):

    return x + y


def subtract(x, y):

    return x - y
```

```
def multiply(x, y):
    return x * y

def divide(x, y):
    return x / y

print("Select operation.")
print("1. Add")
print("2. Subtract")
print("3. Multiply")
print("4. Divide")

while True:
    choice = input("Enter choice(1/2/3/4): ")

    if choice in ('1', '2', '3', '4'):
        try:
            num1 = float(input("Enter first number: "))
            num2 = float(input("Enter second number: "))
        except ValueError:
            print("Invalid input. Please enter a number.")
            continue

        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))
        elif choice == '2':
            print(num1, "-", num2, "=", subtract(num1, num2))
        elif choice == '3':
            print(num1, "*", num2, "=", multiply(num1, num2))
        elif choice == '4':
            if num2 != 0:
                print(num1, "/", num2, "=", divide(num1, num2))
            else:
                print("Error! Division by zero is not allowed.")

        next_calculation = input("Let's do next calculation? (yes/no): ")
        if next_calculation.lower() == "no":
            break
    else:
        print("Invalid Input")
```

Output:

```
Select operation.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter choice(1/2/3/4): 2
Enter first number: 6
Enter second number: 8
6.0 - 8.0 = -2.0
Let's do next calculation? (yes/no): y
```

Q. Take two list and form the third list by using merge operation.

```
fruits = ["apple", "mango", "cherry"]
flowers = ["rose", "lily", "lotus"]
merged_list = fruits + flowers
print("Merged List:", merged_list)
```

Output:

```
Merged List: ['apple', 'mango', 'cherry', 'rose', 'lily', 'lotus']
```

Q. Print sq.no upto 10 and there sum.

```
newlist = [x**2 for x in range(1, 11) if x**2 <= 10]

sum_of_squares = sum(newlist)

print(newlist)

print(sum_of_squares)
```

Output:

```
[1, 4, 9]

14
```

Q. Find sq of any no.using function.

```
def square_number(num):

    return num * num


num = int(input("Enter a number: "))

print("Square:", square_number(num))
```

Output:

```
Enter a number: 4

Square: 16
```

Que) prepare a code in which fruit a is present.

```
 fruits = ["apple", "mango", "cherry", "kiw]

print("Fruits containing 'a':")

for fruit in fruits:

    if "a" in fruit:

        print(fruit)
```

Output:

```
Fruits containing 'a':

apple

mango
```

Que) display items from stack 1 to -4 and -5 to 0

```
stack = [-1, 1 ,3, -8, 7 ]


part1 = stack[1:-4]

print("Items from index 1 to -4:", part1)


part2 = stack[-5:1]

print("Items from index -5 to 0:", part2)
```

<u>Output:</u>

```
Items from index 1 to -4: []

Items from index -5 to 0: [-1]
```

Q.

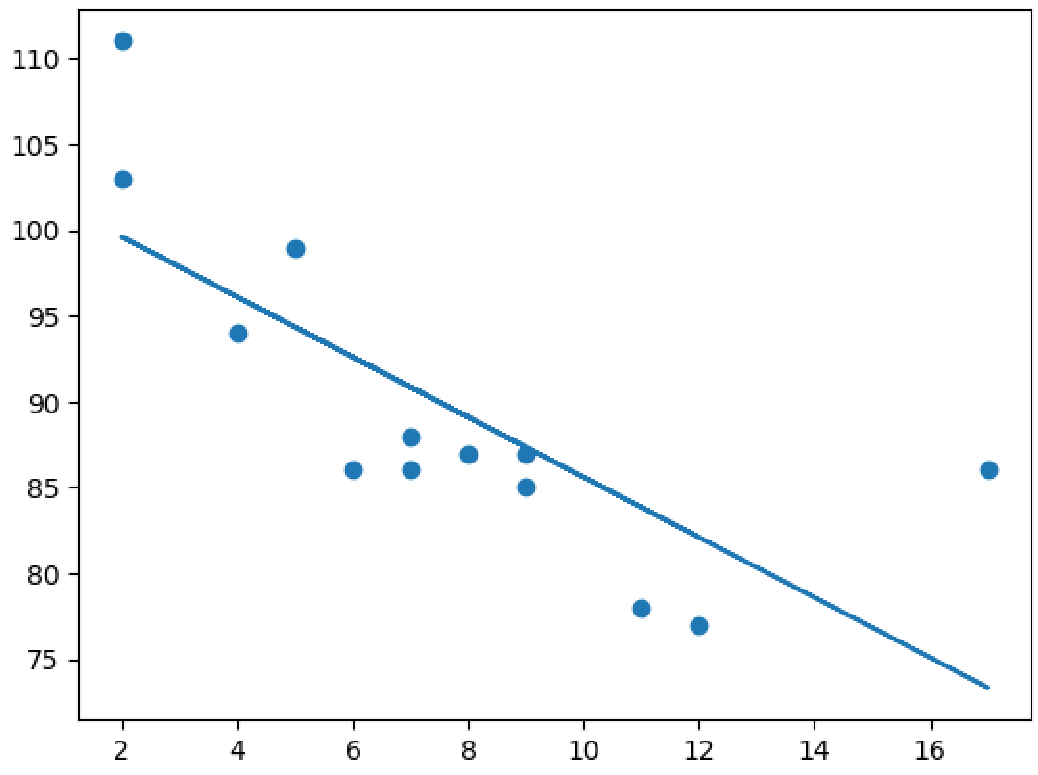
```
for x in range(100,0,-1):
   print (x)
print("Blastoff!")
```

Q.

```
import matplotlib.pyplot as plt
 from scipy import stats
 x = [5,7,8,7,2,17,2,9,4,11,12,9,6]
 y = [99,86,87,88,111,86,103,87,94,78,77,85,86]
 slope, intercept, r, p, std_err = stats.linregress(x, y)
 def myfunc(x):
  return slope * x + intercept
 mymodel = list(map(myfunc, x))
 plt.scatter(x, y)
 plt.plot(x, mymodel)

 plt.show()
```

Output:



Q.
```
f = open(r"C:\Users\Shrawani\Desktop\file.txt.txt","r")

print(f.read())
```

Output:

```
Hello everyone!

I am student of Sanjivani University.

Today I am going to learn the new concept named as "File Handling"
```

Q.
```
f = open(r"C:\Users\Shrawani\Desktop\file.txt.txt","w")

f.write("Hello Mansi!")

f.close()

f = open(r"C:\Users\Shrawani\Desktop\file.txt.txt","r")

print(f.read())

f.close()
```

Output:

Hello Mansi!