1. Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included)

```
for i in range(1500,2701):
   if i%7==0 and i%5==0:
      print("  ",i)
```

2. Write a Python program that prints all the numbers from 0 to 6 except 3 and 6.

Note : Use 'continue' statement.

Expected Output : 0 1 2 4 5

```
for x in range(6):
   if (x == 3 or x == 6):
      continue
   print(x, end=' ')
print("\n")
```

3. Write a Python program which iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".

Sample Output :

fizzbuzz

1

2

fizz

4

Buzz

```
for fizzbuzz in range(6):
   if fizzbuzz % 3 == 0 and fizzbuzz % 5 == 0:
```

```
        print("fizzbuzz")
        continue
    elif fizzbuzz % 3 == 0:
        print("fizz")
        continue
    elif fizzbuzz % 5 == 0:
        print("buzz")
        continue
    print(fizzbuzz)
```

4. Write a Python program to check a triangle is equilateral, isosceles or scalene.

Note :

An equilateral triangle is a triangle in which all three sides are equal.

A scalene triangle is a triangle that has three unequal sides.

An isosceles triangle is a triangle with two equal sides.

Expected Output:

Input lengths of the triangle sides:

x: 6

y: 8

z: 12

Scalene triangle

```
print("Input lengths of the triangle sides: ")
x = int(input("x: "))
y = int(input("y: "))
z = int(input("z: "))
```

```
if x == y == z:
        print("Equilateral triangle")
elif x==y or y==z or z==x:
        print("isosceles triangle")
else:
        print("Scalene triangle")
```

5. Write a Python program to calculate the sum and average of n integer numbers (input from the user). Input 0 to finish

```
print("Input some integers to calculate their sum and average. Input 0 to exit.")
count = 0
sum = 0.0
number = 1
while number != 0:
   number = int(input(""))
   sum = sum + number
   count += 1
if count == 0:
   print("Input some numbers")
else:
   print("sum of the above numbers are:",sum)
   print("Average and Sum of the above numbers are: ", sum / (count - 1))
```

6. Write a Python program to construct the following pattern, using a nested loop number.

1

22

333

4444

55555

666666

7777777

88888888

999999999

```
n=10;
for i in range(n):
    print(str(i) *i)
```

7. Write a Python program that counts the number of elements within a list that are greater than 30.

```
list=[]
count=0
n=int(input("Enter the number of elements :"))
for i in range(0,n):
  ele = int(input())
  list.append(ele)
  if ele>30:
    count=count+1
print(count)
```

8. Take values of length and breadth of a rectangle from user and check if it is square or not.

```
a=int(input("enter the length of the figure"))
b=int(input("enter the breadth of the figure"))
```

```
if a==b:
  print("the figure is a square")
else:
  print("the figure is not a square")
```

9. A shop will give discount of 10% if the cost of purchased quantity is more than 1000.

Ask user for quantity

Suppose, one unit will cost 100.

Judge and print total cost for user.

```
price=int(input("enter price"))
qty=int(input("enter quantity"))
amt=price*qty
if amt>1000:
   print ("10% discount applicable")
   discount=amt*10/100
   amt=amt-discount
   print ("amount payable:",amt)
else:
   print("amount payable:",amt)
```

10. A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years.

Ask user for their salary and year of service and print the net bonus amount.

```
salary = eval(input("Enter your salary:"))
service_yrs = eval(input("Enter Years of service:"))
if service_yrs > 5:
```

```
    print("Yours salary(+Bonus) = ",salary + (salary)*5/100)
else:
    print("You are not eligible for bonus as you have less service years.")
```

11. A school has following rules for grading system:

a. Below 25 - F

b. 25 to 45 - E

c. 45 to 50 - D

d. 50 to 60 - C

e. 60 to 80 - B

f. Above 80 - A

Ask user to enter marks and print the corresponding grade.

```
score = input("Enter your score")
score = int(score)
if score < 25:
  print("F")
elif score >= 25 and score < 45:
  print("E")
elif score >= 45 and score < 50:
  print("D")
elif score >= 50 and score < 60:
  print("C")
elif score >= 60 and score < 80:
  print("B")
else:
```

```
  print("A")
```

12. A student will not be allowed to sit in exam if his/her attendence is less than 75%.

Take following input from user

Number of classes held

Number of classes attended.

And print

percentage of class attended

Is student is allowed to sit in exam or not.

```
a=int(input("Number of classes held:"))
b=int(input("Number of classes attended:"))
percentage=b/a*100
if percentage>=75:
    print("The student is allowed to sit in the exam hall")
else:
    print("The student is not allowed to sit in the exam hall")
```

13. Take 10 integers from keyboard using loop and print their average value on the screen.

```
total_sum = 0
for n in range(10):
   num = float(input('Enter number: '))
   total_sum += num
avg = total_sum / 10
print('Average of numbers = %0.2f' %avg)
```

14. Print multiplication table of 24, 50 and 29 using loop.

```
for i in [24,29,50]:
 print(f"Multiplication table of {i}:")
 for j in range(1,11):
   print(f"{i} * {j} = {i*j}")
 print()
```

15. Take integer inputs from user until he/she presses q (Ask to press q to quit after every integer input). Print average and product of all numbers.

```
summ = 0
count = 0
product=1
raw_input=input("Press Q to Quit")
while raw_input != 'q':
    product=product*int(raw_input)
    summ = summ+int(raw_input)
    count=count+1
    raw_input = input("Press Q to Quit")
print("avreage",summ/count)
print("Product",product)
```

16. Take inputs from user to make a list. Again take one input from user and search it in the list and delete that element, if found. Iterate over list using for loop.

```
numbers = []
x = int(input("Enter number of elements in list"))
print("Enter the elements")
```

```
for i in range(x):
    numbers.append(int(input()))
Num = int(input("The number to be deleted is "))
i = 0
for element in numbers:
    if (element == Num):
        numbers.pop(i)
        x = x - 1
        i = i - 1
    i = i + 1
print(numbers)
```

17. Using range(1,101), make three list,

one containing all even numbers

one containing all odd numbers

One containing only prime numbers..

```
even=[]
odd=[]
prime=[]
for num in range(1,101):
   if num % 2 == 0:
       even.append(num)
   else:
       odd.append(num)
   for i in range(2, (num//2+1)):
```

```
        if(num % i == 0):
            break
    else :
        prime.append(num)
print(even)
print(odd)
print(prime)
```

18. From the two list obtained in previous question, make new lists, containing only numbers which are divisible by 4, 6, 8, 10, 3, 5, 7 and 9 in separate lists.

```
by=[4,6,8,10,3,5,7,9]
for i in range(len(by)):
    print("The Even Number divisible by",by[i])
    for x in range(len(even)):
        if (even[x]%by[i]==0):
            print(even[x],"  ")
for i in range(len(by)):
    print("The Even Number divisible by",by[i])
    for x in range(len(odd)):
        if (odd[x]%by[i]==0):
            print(odd[x],"  ")
```

19. From a list containing ints, strings and floats, make three lists to store them separately

```
w=[4, 5, 1.1, 'abcd', 3.4, 'xyz', 2]
x=[]
y=[]
```

```
z=[]
for i in w:
   if type(i)==int:
      x.append(i)
   elif type(i)==float:
      y.append(i)
   elif type(i)==str:
      z.append(i)
print(x)
print(y)
print(z)
```

20. You are given with a list of integer elements. Make a new list which will store square of elements of previous list.

```
def square(list):
   ret = []
   for i in list:
      ret.append(i ** 2)
   return ret
list=[]
n=int(input("Enter the number of elements :"))
for i in range(0,n):
   ele = int(input())
   list.append(ele)
print(square(list))
```