1.write a program to move all the zeroes in a list to the end while maintaining the order of the non-zero elements
Example:
input:[1,0,2,0,3,4]
output:[1,2,3,4,0,0]

```
lis=[1,0,2,0,3,4]
zero_values=[]
nonzero_values=[]
for i in lis:
  if i!=0:
    nonzero_values.append(i)
  else:
    zero_values.append(i)
print(nonzero_values)
print(zero_values)

res=zero_values+nonzero_values
print(res)
```

```
[1, 2, 3, 4]
[0, 0]
[0, 0, 1, 2, 3, 4]
```

2.write a program to find the longest string in the list ?

```
lis=["Nandeesha","Manoj","Kali","MuraliYadavs","MuraliYadava" ]
max=len(lis[0])
for i in lis:
  if len(i)>=max:
    max=len(i)
# print(max)
longest_word=[]

for i in lis:
  if max==len(i):
   longest_word.append(i)
print("the longest word in the list is",longest_word)
print("lenght of the longest wors is",max)
```

```
the longest word in the list is ['MuraliYadavs', 'MuraliYadava']
lenght of the longest wors is 12
```

3.write a program to find the sum of all prime numbers in the list ?

```
lis=[2,45,65,1,2,98,47,28]

a=[]
for i in lis:
  count=0
  for j in range(1,i+1,1):
    if i%j==0:
      count=count+1
  if count==2:
      a.append(i)
print("prime numbers are ",a)

p_sum=0
for i in a:
  p_sum=p_sum+i
print("sum of prime numbers are ",p_sum)
```

```
prime numbers are  [2, 2, 47]
sum of prime numbers are  51
```

4.write a program to flatten a list (eg.[1,[1,2],[3,4],5,6])----->([1,1,2,3,4,5,6])

```
lis=[1,[1,2],[3,4],5,6]
a=[]
for i in lis:
 if type(i)==list:
  for j in i:
    a.append(j)
 else:
  a.append(i)
print(a)
```

```
[1, 1, 2, 3, 4, 5, 6]
```

5.hallow fusion pattern

```
n=5
for i in range(1,n+1,1):
  for j in range(1,n+1,1):
    if i+j==n+1:
      print("*",end="")
    else:
      print(" ",end="")

  for j in range(1,n+1,1):
    if i==j+1:
      print("*",end="")
    else:
      print(" ",end="")



  print("")

n=5

for i in range(1,n+1,1):
  for j in range(1,n+1,1):
    if i+1==j:
      print("*",end="")
    else:
      print(" ",end="")

  for j in range(1,n+1,1):
    if i+j==n+1:
      print("*",end="")
    else:
      print(" ",end="")

  print("")
```

```
    *
   * *
  *   *
 *     *
*       *
 *       *
  *     *
   *   *
    * *
     *
```