1.write a program to check the list is palindrome or not without using the slicing?

```
n=int(input("enter the size of a list"))
lis=[int(input()) for i in range(1,n+1,1)]
save=lis
i=0
j=n-1
while i<=j:
  temp=lis[i]
  lis[i]=lis[j]
  lis[j]=temp
print(lis)
if save==lis:
  print("palindrome")
else:
  print("not palindrome")
```

```
enter the size of a list5
56
12
43
18
4
```

2.write a program to remove all occurance of given element in the list without using the remove()??

```
lis=[1,2,2,3,4,4,5,1]
newlis=[]
x=int(input("enter a number to remove"))

for i in lis:
  if x!=i:
    newlis.append(i)
print(newlis)
```

```
enter a number to remove1
[2, 2, 3, 4, 4, 5]
```

3.write a program to print the list in pairs [1,2,3,4,5,6,] ----------> (1,2) (3,4) (5,6)

```
lst = [1, 2, 3, 4, 5, 6, 7]

for i in range(0, len(lst), 2):
    if i+1 < len(lst):
        print(f"({lst[i]}, {lst[i+1]})", end=" ")
    else:
        print(f"({lst[i]})", end=" ")
```

```
(1, 2) (3, 4) (5, 6) (7)
```

4.write program to print 3rd largest number in the list

```
lis=[55,23,1,5,87,32,78]

for i in range(1,n+1,1):
```

```
  for j in range(1,n+1,1):
    if lis[j]>lis[j+1]:
      temp=lis[j]
      lis[j]=lis[j+1]
      lis[j+1]=temp
print(lis)
print(lis[-3])
```

```
[55, 1, 5, 23, 32, 78, 87]
32
```

5.fussion patterns

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


  print("")

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


    print("")
```

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

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

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

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

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

```
n=5
for i in range(1,n+1,1):
 for j in range(1,i,1):
    print(" ",end="")
 for j in range(1,n-i+2,1):
    print("*",end="")
 for j in range(1,n-i+1,1):
  print("*",end="")

 print("")

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


 print("")
```

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

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

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

```
n=5
for i in range(1,n+1,1):
  for j in range(1,n-i+1,1):
    print(" ",end="")
  p=65
  for j in range(1,i+1,1):
    print(chr(p),end=" ")
    p=p+1
  print("")
```

```
n=4
for i in range(1,n+1,1):
  for j in range(1,i+1,1):
    print(" ",end="")
  p=65
  for j in range(1,n-i+2,1):
    print(chr(p),end=" ")
    p=p+1

  print("")
```

```
   A
  A B
 A B C
A B C D
A B C D E
 A B C D
  A B C
   A B
    A
```