In [61]:
```python
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## Sol 1:
print("Enter elements in the list in which you want to insert more elements or delete elements from it: ")
myList = []
n = int (input ("How many elements do you want to enter in the list initially :- "))
for i in range (n) :
    storeElement = int (input ("Enter an integer number in the list :- "))
    myList.append (storeElement)
print("List elements are: ", myList)

def insert():
    store=int(input("Input list element you want to add: "))
    myList.append (store)
    print("List elements are: ", myList)

def delete_value():
    item=int(input("Enter the item you want to delete: "))
    myList.remove(item)
    print("List elements are: ", myList)

def delete_position():
    pos=int(input("Enter the index of the item you want to delete: "))
    #del myList[pos]
    myList.pop(pos)
    print("List elements are: ", myList)


def delete_slicing():
    pos1=int(input("Enter the starting value from where you want to delete: "))
    pos2=int(input("Enter the ending value (included) till where you want to delete: "))
    del myList[pos1:pos2+1]
    print("List elements are: ", myList)

while True:
    print("\nMAIN MENU")
    print("Press 1 to insert element: ")
    print("Press 2 to delete element: ")
    print("Press 3 to exit: ")
```

```python
        option = int(input("Enter your choice: "))

        if option == 1:
            insert()
        elif option == 2:
            print("\nSub choices to delete element are: ")
            print("Press 1 to delete element by value: ")
            print("Press 2 to delete element by position: ")
            print("Press 3 to delete element by slicing: ")
            option2 = int(input("Enter your choice: "))

            if option2 == 1:
                delete_value()
            elif option2 == 2:
                delete_position()
            elif option2 == 3:
                delete_slicing()
            else:
                print("\nIncorrect choice.")
                exit()
        elif option == 3:
            print("\nYou have exited from program. Thank you.")
            break
```

```
Enter elements in the list in which you want to insert more elements or delete elements from it:
How many elements do you want to enter in the list initially :- 4
Enter an integer number in the list :- 3
Enter an integer number in the list :- 2
Enter an integer number in the list :- 4
Enter an integer number in the list :- 1
List elements are:  [3, 2, 4, 1]

MAIN MENU
Press 1 to insert element:
Press 2 to delete element:
Press 3 to exit:
Enter your choice: 1
Input list element you want to add: 4
List elements are:  [3, 2, 4, 1, 4]

MAIN MENU
Press 1 to insert element:
Press 2 to delete element:
Press 3 to exit:
Enter your choice: 2
```

```
Sub choices to delete element are:
Press 1 to delete element by value:
Press 2 to delete element by position:
Press 3 to delete element by slicing:
Enter your choice: 3
Enter the starting value from where you want to delete: 4
Enter the ending value (included) till where you want to delete: 1
List elements are:  [3, 2, 4, 1, 4]

MAIN MENU
Press 1 to insert element:
Press 2 to delete element:
Press 3 to exit:
Enter your choice: 2

Sub choices to delete element are:
Press 1 to delete element by value:
Press 2 to delete element by position:
Press 3 to delete element by slicing:
Enter your choice: 1
Enter the item you want to delete: 3
List elements are:  [2, 4, 1, 4]

MAIN MENU
Press 1 to insert element:
Press 2 to delete element:
Press 3 to exit:
Enter your choice: 2

Sub choices to delete element are:
Press 1 to delete element by value:
Press 2 to delete element by position:
Press 3 to delete element by slicing:
Enter your choice: 2
Enter the index of the item you want to delete: 0
List elements are:  [4, 1, 4]

MAIN MENU
Press 1 to insert element:
Press 2 to delete element:
Press 3 to exit:
Enter your choice: 2

Sub choices to delete element are:
Press 1 to delete element by value:
Press 2 to delete element by position:
```

```
        Press 3 to delete element by slicing:
        Enter your choice: 3
        Enter the starting value from where you want to delete: 1
        Enter the ending value (included) till where you want to delete: 3
        List elements are:  [4]

        MAIN MENU
        Press 1 to insert element:
        Press 2 to delete element:
        Press 3 to exit:
        Enter your choice: 3

        You have exited from program. Thank you.
```

In [33]:

```python
## Sol 2:
print("Enter elements in the list in which you want to insert more elements: ")
myList = []
n = int (input ("How many elements do you want to enter in the list initially :- "))
for i in range (n) :
    storeElement = int (input ("Enter an integer number in the list :- "))
    myList.append (storeElement)
print("List elements are: ", myList)

def multiple():
    n1 = int (input ("How many elements do you want to append in the list :- "))
    n = len(myList)
    for i in range (n1) :
        storeElement = int (input ("Enter an integer num :- "))
        myList.append (storeElement)
    print("List elements are: ", myList)
    #list2 = [1,2,3]
    #myList.extend(list2) #extend() adds all the elements of an iterable (list, tuple, string etc.) to end of list.

def single():
    storeelement = int (input ("Enter the element you want to insert in the list:"))
    myList.append (storeelement)
    print("List elements are: ", myList)

while True:
    print("\nMAIN MENU")
    print("Press 1 to insert a list of elements: ")
    print("Press 2 to insert a single element: ")
    print("Press 3 to exit: ")
    option = int(input("Enter your choice: "))
```

```python
    if option == 1:
        multiple()
    elif option == 2:
        single()
    elif option ==3:
        print("\nYou have exited from program. Thank you.")
        break
```

```
Enter elements in the list in which you want to insert more elements:
How many elements do you want to enter in the list initially :- 3
Enter an integer number in the list :- 1
Enter an integer number in the list :- 2
Enter an integer number in the list :- 3
List elements are:  [1, 2, 3]

MAIN MENU
Press 1 to insert a list of elements:
Press 2 to insert a single element:
Press 3 to exit:
Enter your choice: 1
How many elements do you want to append in the list :- 5
Enter an integer num :- 5
Enter an integer num :- 6
Enter an integer num :- 4
Enter an integer num :- 3
Enter an integer num :- 2
List elements are:  [1, 2, 3, 5, 6, 4, 3, 2]

MAIN MENU
Press 1 to insert a list of elements:
Press 2 to insert a single element:
Press 3 to exit:
Enter your choice: 2
Enter the element you want to insert in the list:9
List elements are:  [1, 2, 3, 5, 6, 4, 3, 2, 9]

MAIN MENU
Press 1 to insert a list of elements:
Press 2 to insert a single element:
Press 3 to exit:
Enter your choice: 3

You have exited from program. Thank you.
```

In [13]:
```python
## Sol 3:
alist = []
```

```python
alist2 = []
alist3 = []

n = int(input("Enter the no. of elements you want to input: "))
if n >= 9:
    for i in range(n):
        inp = int(input("Enter an element: "))
        alist.append(inp)
    mytuple = tuple(alist)
    print("Entered tuple is: ", mytuple)
    alist2 = mytuple[-1:0:-3]
    #for i in range(len(mytuple)):
        #if i+1 > 3 and i+1 < 9 and (i+1) % 2 != 0:
            #alist3.append(mytuple[i])
    alist3 = mytuple[4:8:2]

    tup1 = tuple(alist2)
    tup2 = tuple(alist3)
    print("\nTuple containing every third element in reverse order, starting from last is: ")
    print(tup1)
    print("\nTuple containing alternate element between 3rd and 9th element is: ")
    print(tup2)

else:
    print("You must enter atleast 9 elements.")
```

```
Enter the no. of elements you want to input: 9
Enter an element: 2
Enter an element: 3
Enter an element: 4
Enter an element: 5
Enter an element: 6
Enter an element: 7
Enter an element: 8
Enter an element: 9
Enter an element: 1
Entered tuple is:  (2, 3, 4, 5, 6, 7, 8, 9, 1)

Tuple containing every third element in reverse order, starting from last is:
(1, 7, 4)

Tuple containing alternate element between 3rd and 9th element is:
(6, 8)
```

```python
In [34]:   ## Sol 4:
           n = int (input ("Enter the total number of students: "))
```

```python
list1=[]
for i in range(n):
    email=input("Enter email: ")
    list1.append(email)

tuple1=tuple(list1)

names=[]
domains=[]

for i in tuple1:
    #name,domain = i.split("@")
    #names.append(name)
    #domains.append(domain)
    temp = i.split("@")
    names.append(temp[0])
    domains.append(temp[1])

names = tuple(names)
domains = tuple(domains)

print("Original Tuple = ",tuple1)
print("Names = ",names)
print("Domains = ",domains)
```

```
Enter the total number of students: 2
Enter email: ananyaag06@gmail.com
Enter email: aag3_be19@thapar.edu
Original Tuple =  ('ananyaag06@gmail.com', 'aag3_be19@thapar.edu')
Names =  ('ananyaag06', 'aag3_be19')
Domains =  ('gmail.com', 'thapar.edu')
```

In [9]:
```python
## Sol 5:
d={}

n=int(input('Enter number of the winners :'))

for i in range (n):

    a=input('Enter name of the winner:')

    b=int(input('Enter the number of wins of the winner:'))

    d[a]=b
```

```python
    print('\n')

    print('name of the winners','\t','number of wins')

    for i in d:

        print(i,'\t','\t','\t',d[i])

    print('\n')
```

```
Enter number of the winners :5
Enter name of the winner:a
Enter the number of wins of the winner:2
Enter name of the winner:v
Enter the number of wins of the winner:3
Enter name of the winner:b
Enter the number of wins of the winner:4
Enter name of the winner:t
Enter the number of wins of the winner:5
Enter name of the winner:g
Enter the number of wins of the winner:5


name of the winners       number of wins
a                         2
v                         3
b                         4
t                         5
g                         5
```

In [25]:
```python
## Sol 6:
dict1 = {0:'Zero',1:'One',2:'Two',3:'Three'}
value = input("Enter the value you want to match: ")
flag = 0

for i in dict1.keys():
    if dict1[i].lower() == value.lower():
        print(i)
        flag = 1
        break
if flag == 0:
    print("error!!")
```

```
Enter the value you want to match: five
error!!
```

In [32]:
```python
## Sol 7:
d={}
n=int(input("Enter the number of students: "))
print("\nEnter the name, class, roll no of students: ")

for i in range(n):
    print("Enter Details of student No.", i+1)
    rollno = int(input("\nEnter roll no: "))
    name = input("\nEnter name: ")
    marks = int(input("\nEnter marks: "))

    d[rollno] = [name,marks]

for i in d.values():
    if i[1] > 75:
        print(i[0])
```

```
Enter the number of students: 3

Enter the name, class, roll no of students:
Enter Details of student No. 1

Enter roll no: 1

Enter name: ananya

Enter marks: 500
Enter Details of student No. 2

Enter roll no: 2

Enter name: b

Enter marks: 4
Enter Details of student No. 3

Enter roll no: 3

Enter name: c

Enter marks: 4
ananya
```

In [62]:
```python
## Sol 8:
sent = input("Enter the sentence: ")
dict = {}

for i in sent:
    if (i >= "a" and i <= "z" ) or (i >= "A" and i <= "Z") or (i >= "0" and i <= "9"):
        if i not in dict.keys():
            dict[i] = 1
        else:
            dict[i]+=1

print(dict)
```

```
Enter the sentence: Ananyaagarwal065
{'A': 1, 'n': 2, 'a': 5, 'y': 1, 'g': 1, 'r': 1, 'w': 1, 'l': 1, '0': 1, '6': 1, '5': 1}
```

In [63]:
```python
## Sol 9:
str1 = input("Enter a string : ").lower()
vowels = ('a', 'e', 'i', 'o', 'u')
sub_str = ""
for i in range(len(str1)):
  temp = ""
  if str1[i] >= 'a' and str1[i] <= 'z' and str1[i] not in vowels:
    temp += str1[i]
    for j in range(i+1, len(str1)):
      if str1[j] >= 'a' and str1[j] <= 'z' and str1[j] not in vowels:
        temp += str1[j]
      else:
        break
      if len(temp) > len(sub_str):
        sub_str = temp
print(sub_str)
```

```
Enter a string : xprqaxeije
xprq
```

In [64]:
```python
## Sol 10:
def Count(str):
    upper, lower, digit, symbol, alphabet  = 0, 0, 0, 0, 0
    for i in range(len(str)):
        if str[i].isupper():
            upper += 1
        if str[i].islower():
            lower += 1
```

```python
        if str[i].isdigit():
            digit += 1
        if str[i].isalpha():
            alphabet += 1
        if not str[i].isalnum():
            symbol += 1
    #Python isalnum() only returns true if a string contains alphanumeric characters, without symbols.


    print('\nUpper case letters:', upper)
    print('\nAlphabets:', alphabet)
    print('\nLowercase letters:', lower)
    print('\nDigits:', digit)
    print('\nSymbols:', symbol)


line = input("Enter a line: ")
Count(line)
```

Enter a line: anANy12@#'

Upper case letters: 2

Alphabets: 5

Lowercase letters: 3

Digits: 2

Symbols: 3

In [ ]: