Practical 2.1

Create a list named “Subjects” by inserting 10 subjects into it through any loop and create a list “Elective Subjects” with 5 subjects through direct initialization. Extend list “Subject” by another list “Elective Subjects”. Append 3 duplicate subjects into “Subject” list. Find the index of first occurrence of that duplicate value and then remove all the occurrences of that specific subject through loop. Define function remove_range (i1, i2) to remove range of element from i1 to i2 through del keyword and return the resultant list. Pop 5th element after reversing and sorting your list. Count total elements in your list and finally clear the list. Which of the above operations can be performed directly? Which of the above operations cannot be performed directly on Tuple and why? Update and remove specific item from the tuple by converting it into list

Create a list named “Subjects” by inserting 10 subjects into it through any loop.

In [1]:
```
subjects = list()
print("Enter 10 subjects : ")
for i in range(10):
    s = input()
    subjects.append(s)
```

```
Enter 10 subjects :
DS
Algo
Python
Web
OS
CN
DBMS
ML
AI
Data mining
```

Create a list “Elective Subjects” with 5 subjects through direct initialization

In [6]:
```
elecsub = ["Advance Java",".Net","Cyber","Advance Web","Deep learning"]
```

Extend list “Subject” by another list “Elective Subjects”.

In [8]:
```
subjects = subjects + elecsub
```

Append 3 duplicate subjects into “Subject” list.

In [18]:
```
subjects.append("Python")
subjects.append("Python")
subjects.append("Python")
```

Find the index of first occurrence of that duplicate value and then remove all the occurrences of that specific subject through loop.

In [29]:
```
subjects.index("Python")
```

Out[29]: 2

In [32]:
```
while("Python" in subjects):
    subjects.remove("Python")
```

In [35]:
```
tr = set()
for s in subjects:
    if s in tr:
        subjects.remove(s)
    else:
        tr.add(s)
```

Define function remove_range (i1, i2) to remove range of element from i1 to i2 through del keyword and return the resultant list.

In [37]:
```
def remove_range(subjects,i1,i2):
    del subjects[i1:i2]

    return subjects

newsub = remove_range(subjects,2,5)
```

Pop 5th element after reversing and sorting your list.

In [43]:
```
newsub.sort()
newsub.reverse()
newsub.pop(4)
```

Out[43]: 'DS'

Count total elements in your list and finally clear the list.

In [46]:
```
print("Number of elements : ",len(newsub))
```

```
Number of elements :  11
```

In [47]:
```
newsub.clear()
```

Which of the above operations can be performed directly? Which of the above operations cannot be performed directly on Tuple and why? Update and remove specific item from the tuple by converting it into list.

Answer : Extending, appending, removing, sorting, reverse and popping can be done directly. All these functions escape indexing cannot be performed directly on Tuple because they are immutable. Once they are created they cannot be changed.

In [77]:
```
tsub = tuple(['Web','ML','Deep learning','Data mining','Cyber','Algo','Adva
nce Web','Advance Java','AI','.Net'])
```

In [78]:
```
listsub = list(tsub)
```

In [79]:
```
listsub[2] = "IOT"
```

In [80]:
```
listsub.remove("Algo")
```

In [81]:
```
tsub= tuple(listsub)
```

In [82]:
```
tsub
```

Out[82]:
```
('Web',
 'ML',
 'IOT',
 'Data mining',
 'Cyber',
 'Advance Web',
 'Advance Java',
 'AI',
 '.Net')
```