

Removing element/items from list

Removing elements from list is done using different approaches

1. del keyword
2. remove method
3. pop method
4. clear method

del keyword

del keyword is used to delete one or more than one value/element

del keyword delete one element using index

del keyword delete more than one element using slicing

Syntax-1: del <list-name>[index]

Syntax-2: del <list-name>[startindex:stopindex:step]

```
>>> list1=list(range(10,110,10))
>>> print(list1)
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
>>> del list1[0]
>>> print(list1)
[20, 30, 40, 50, 60, 70, 80, 90, 100]
>>> del list1[3]
>>> print(list1)
[20, 30, 40, 60, 70, 80, 90, 100]
>>> del list1[5:]
>>> print(list1)
[20, 30, 40, 60, 70]
>>> del list1[2:4]
>>> print(list1)
[20, 30, 70]
>>>
>>> list1=list(range(10,110,10))
>>> print(list1)
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
>>> list1[2:-2]
[30, 40, 50, 60, 70, 80]
>>> del list1[2:-2]
>>> print(list1)
[10, 20, 90, 100]
>>>
>>> del list1[5]
```

Traceback (most recent call last):

File "<pyshell#15>", line 1, in <module>

del list1[5]

IndexError: list assignment index out of range

>>>

remove() method

remove the first item from s where s[i] is equal to x

```
>>> list1=[10,20,30,40,50]
```

```
>>> list1.remove(40)
```

```
>>> print(list1)
```

```
[10, 20, 30, 50]
```

```
>>>
```

```
>>> list1=[10,20,30,10,20,30]
```

```
>>> list1.remove(30)
```

```
>>> print(list1)
```

```
[10, 20, 10, 20, 30]
```

```
>>>
```

write a program to remove all occurrences input value

```
n=int(input("Enter how many values"))
```

```
l1=list(map(int,input().split(" ")[n]))
```

```
ele=int(input("Enter element to remove"))
```

```
i=0
```

```
while i<n:
```

```
    if l1[i]==ele:
```

```
        del l1[i]
```

```
        n=n-1
```

```
        continue
```

```
    i+=1
```

```
print(f'List of elements {l1}')
```

“del” keyword is used to delete/remove one or more than one element using index and slicing

“remove” method is used to delete/remove element from list using value

pop() method

we can use list as a stack

stack is data structure which follows LIFO (Last In First Out)

The element/item is added last is removed first

Stack data structure allows two operations

1. Push → Adding element to stack
2. Pop → Reading and removing element which is added last

```
# stack
stack=[]
while True:
    print("****MENU****")
    print("1. Push")
    print("2. Pop")
    print("3. Display")
    print("4. Exit")
    opt=int(input("Enter your option:"))
    if opt==1:
        ele=int(input("Element:"))
        stack.append(ele)
        print("element pushed inside stack")
    elif opt==2:
        if len(stack)==0:
            print("Stack is empty")
        else:
            ele=stack.pop()
            print(f'{ele} popped from stack')
    elif opt==3:
        print(f'Stack : {stack}')
    elif opt==4:
        break
```

Output:

```
****MENU****
```

1. Push
2. Pop
3. Display
4. Exit

```
Enter your option:1
```

```
Element:10
```

```
element pushed inside stack
```

clear() : this method is used to remove all elements/items from stack

```
>>> list1=[10,20,30,40,50]
>>> list1.clear()
>>> print(list1)
[]
>>>
```

Replacing values of list

Replacing values of list is done in two ways

1. Using index
2. Using slicing

Using index we can replace only one value

Using slicing we can replace more than one value

Syntax-1: list-name[index]=value

Syntax-2: list-name[start:stop:step]=[value,value,value,..]

Example:

```
>>> list1=[10,20,30,40,50]
>>> print(list1)
[10, 20, 30, 40, 50]
>>> list1[0]=99
>>> print(list1)
[99, 20, 30, 40, 50]
>>> list1[-1]=88
>>> print(list1)
[99, 20, 30, 40, 88]
>>>
>>> list1=list(range(10,110,10))
>>> print(list1)
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
>>> list1[0:3]=[11,22,33]
>>> print(list1)
[11, 22, 33, 40, 50, 60, 70, 80, 90, 100]
>>> list1[-3:]=[88,99,111]
>>> print(list1)
[11, 22, 33, 40, 50, 60, 70, 88, 99, 111]
>>> list1=list(range(10,110,10))
>>> print(list1)
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
```

```
>>> list1[::2]=[1,2,3,4,5]
>>> print(list1)
[1, 20, 2, 40, 3, 60, 4, 80, 5, 100]
>>> list1=list(range(10,110,10))
>>> list1[::2]=[1,2,3,4,5]
>>> print(list1)
[10, 5, 30, 4, 50, 3, 70, 2, 90, 1]
>>> list1=list(range(10,110,10))
>>> print(list1)
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
>>> list1[0:3]=[11,22]
>>> print(list1)
[11, 22, 40, 50, 60, 70, 80, 90, 100]
>>> list1[0:3]=[33,44,55,66,77]
>>> print(list1)
[33, 44, 55, 66, 77, 50, 60, 70, 80, 90, 100]
>>>
```