PROGRAM:

tup= ('cement', 'flooring tiles', 'bricks', 'sand', 'cement', 'paint')

print("original tuple",tup)

for i in tup:

print( i,"appears",tup.count(i),"time")

n=tup.index('bricks')

print("the index of bricks is",n)

list1=list(tup)

print("tuple to list",list1)

s=input("enter the material to be added:")

list1.append(s)

print("adding new material to tha list",'\n',list1)

tup2=tuple(list1)

print("convert list to tuple",'\n',tup2)

OUTPUT:

original tuple ('cement', 'flooring tiles', 'bricks', 'sand', 'cement', 'paint')

cement appears 2 time

flooring tiles appears 1 time

bricks appears 1 time

sand appears 1 time

cement appears 2 time

paint appears 1 time

the index of bricks is 2

tuple to list ['cement', 'flooring tiles', 'bricks', 'sand', 'cement', 'paint']

enter the material to be added:aggregates

adding new material to tha list

['cement', 'flooring tiles', 'bricks', 'sand', 'cement', 'paint', 'aggregates']

convert list to tuple

('cement', 'flooring tiles', 'bricks', 'sand', 'cement', 'paint', 'aggregates')

PROGRAM:

n=int(input("Enter no of components:"))

list1=[]

for i in range(0,n):

ele=input("Enter the component:")

list1.append(ele.strip())

print("Original list",list1)

b=int(input("Enter position to insert component:"))

d=input("Enter the component to insert:")

list1.insert(b,d)

print("after inserting the component",list1)

list1.sort(reverse=True)

print("in descending order",'\n',list1)

list1.sort()

print("in ascending order",'\n',list1)

print("after deleting the first element")

list1.pop(0)

print(list1)

print("after deleting the last element")

list1.pop(3)

print(len(list1))

OUTPUT:

Enter no of components:4

Enter the component:battery

Enter the component:brakes

Enter the component:engines

Enter the component:radiators

Original list ['battery', 'brakes', 'engines', 'radiators']

Enter position to insert component:2

Enter the component to insert:tyres

after inserting the component ['battery', 'brakes', 'tyres', 'engines', 'radiators']

in descending order

['tyres', 'radiators', 'engines', 'brakes', 'battery']

in ascending order

['battery', 'brakes', 'engines', 'radiators', 'tyres']

after deleting the first element

['brakes', 'engines', 'radiators', 'tyres']

after deleting the last element

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PROGRAM:

a=['Think Python', 5]

b=['Theory of Computation', 3]

c=['Electrical Machines', 7]

d=['Digital Signal Processing', 12]

e=['Circuits', 9]

list1=[a,b,c,d,e]

print("books in library")

for i in list1:

print(i)

n=input("enter the bookname to be issued:")

print("books after issue")

for bookcount in list1:

if bookcount[0] == n:

bookcount[1]=bookcount[1]-1

print(list1)

OUTPUT:

books in library

['Think Python', 5]

['Theory of Computation', 3]

['Electrical Machines', 7]

['Digital Signal Processing', 12]

['Circuits', 9]

enter the bookname to be issued:Circuits

books after issue

[['Think Python', 5], ['Theory of Computation', 3], ['Electrical Machines', 7], ['Digital Signal Processing', 12], ['Circuits', 8]]

dict1={'engine': 'compression', 'brake': 'mechanic', 'body': 'fibre', 'chassis': 'steel','suspension': 'hydraulic'}

print(dict1)

dict1['electrical']='battery'

print(dict1)

n=len(dict1)

print("the length of the materials is",n)

print("after updating the value of chasis")

dict1['chassis']='plastics'

print(dict1)

print("after deleting the value brake")

del dict1['brake']

print(dict1)

print("after deleting the last element")

dict1.popitem()

print(dict1)

print("after sorting the keys in the dictionary")

print(sorted(dict1.keys()))

print("after sorting the values in the dictionary")

print(sorted(dict1.values()))

dict1.clear()

print(dict1)

{'engine': 'compression', 'brake': 'mechanic', 'body': 'fibre', 'chassis': 'steel', 'suspension': 'hydraulic'}

{'engine': 'compression', 'brake': 'mechanic', 'body': 'fibre', 'chassis': 'steel', 'suspension': 'hydraulic', 'electrical': 'battery'}

the length of the materials is 6

after updating the value of chasis

{'engine': 'compression', 'brake': 'mechanic', 'body': 'fibre', 'chassis': 'plastics', 'suspension': 'hydraulic', 'electrical': 'battery'}

after deleting the value brake

{'engine': 'compression', 'body': 'fibre', 'chassis': 'plastics', 'suspension': 'hydraulic', 'electrical': 'battery'}

after deleting the last element

{'engine': 'compression', 'body': 'fibre', 'chassis': 'plastics', 'suspension': 'hydraulic'}

after sorting the keys in the dictionary

['body', 'chassis', 'engine', 'suspension']

after sorting the values in the dictionary

['compression', 'fibre', 'hydraulic', 'plastics']

{}