07-10-2025

data structure:

python data structure are ways of organizing and sorting data so that they can be accessed and modified efficiently.

python provides both built-in data structures and allows us to implement user defined data structure.

list = []

tuple = ()

set = {}

dict = {key:values}

list:

its is a multivalued variable and it is heterogenous in nature

its mutable,ordered and allow duplicates

its represented by list() or []

```
l1 = [34,"priya", 27.9,True, 34,1+8j,"priya"]
l1
[34, 'priya', 27.9, True, 34, (1+8j), 'priya']


for i in enumerate(l1):
    print(i)
```

o/p:

```
(0, 34)
(1, 'priya')
(2, 27.9)
(3, True)
```

```
(4, 34)
(5, (1+8j))
(6, 'priya')
for i in range(len(l1)): #(0,7,1)
    print(i, "=",l1[i])
```

o/p:

```
0 = 34
1 = priya
2 = 27.9
3 = True
4 = 34
5 = (1+8j)
6 = priya
```

```
l1.append("Karuna")
l1
[34, 'priya', 27.9, True, 34, (1+8j), 'priya', 'Karuna']
```

```
l1[4] = "False"
l1
[34, 'priya', 27.9, 100, 'False', True, 34, (1+8j), 'priya
', 'Karuna']
```

Q)l1 = [1,2,3,4,5]

l2 = [4,5,6,7,8]

A)l1 = [1,2,3,4,5]

l2 = [4,5,6,7,8]

l3 = []

for i in l1:

  if i not in l2:

    l3.append(i)

```
for j in l2:
    if j not in l1:
        l3.append(j)


l3
```

o/p:

```
[1, 2, 3, 6, 7, 8]

# create even,odd,prime number list from 1 to 20 number
en = []
od = []
pn = []
for i in range(1,21,1):
    if(i%2==0):
        en.append(i)
    else:
        od.append(i)
    if(i!=1):
        for j in range(2,i,1):
            if(i%j==0):
                break
        else:
            pn.append(i)

print(f"{en}\n{od}\n{pn}")
```

o/p:

```
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
[1, 3, 5, 7, 9, 11, 13, 15, 17, 19]
[2, 3, 5, 7, 11, 13, 17, 19]
```