In [ ]:
```
1. Find the number of unique numbers in your phone number and store it in one list
```

In [6]:
```
num='9948885195'
l1=[]
for i in num:
    if i not in l1:
        l1.append(i)
l1
```

Out[6]:
```
['9', '4', '8', '5', '1']
```

In [ ]:
```
2. String=” Hello world” reverse the given string.
```

In [7]:
```
s1='hello world'
for i in reversed(s1):
    print(i)
```

```
d
l
r
o
w

o
l
l
e
h
```

In [8]:
```
s1[::-1]
```

Out[8]:
```
'dlrow olleh'
```

In [ ]:
```
3. S=” ASjhdbgjhdbFYYJGJYTFJHGghdbhj%%6teyt894yt83yt87yt87ye”. find the unique values in the given string.
```

In [14]:
```
S='ASjhdbgjhdbFYYJGJYTFJHGghdbhj%%6teyt894yt83yt87yt87ye'
l1=[]
for i in S:
    if i not in l1:
        l1.append(i)
l1
```

Out[14]:
```
['A',
 'S',
 'j',
 'h',
 'd',
 'b',
 'g',
 'F',
 'Y',
 'J',
 'G',
 'T',
 'H',
 '%',
 '6',
 't',
 'e',
 'y',
 '8',
 '9',
 '4',
 '3',
 '7']
```

In [ ]:
```
4. Get the prime numbers from 1 to 100 and store it in list
```

In [63]:
```
l1=[]
for i in range (1,10):
    if i//i==1 & i%1==0:
        l1.append(i)
```

Out[63]:
```
[]
```

In [64]:
```
3//3
```

Out[64]:
```
1
```

In [ ]:
```
8. Difference between mutable and immutable.
```

example-1

mutable

In [17]:
```
l1=[100,200,300]
l2=(100,200,300)
```

In [19]:
```
l1[0]=75
l1
```

Out[19]:
```
[75, 200, 300]
```

- mutable means we can change the values in the given function by indexing

example-2

immutable

In [20]:
```
l2[0]=1863
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[20], line 1
----> 1 l2[0]=1863

TypeError: 'tuple' object does not support item assignment
```

- immutable means we cannot change the values in the given function by indexing

- 'tuple' object does not support item assignment - we will get the similar error

In [ ]:
```
6. Create the dictionary and get the values and keys in thar dictionary
```

In [28]:
```
d1={}
names=['varaha','narasimha','hanuma']
d1['Names']=names
d1['age']=[25,30,35]
d1
for i in d1:
    print(i,d1[i])
```

```
Names ['varaha', 'narasimha', 'hanuma']
age [25, 30, 35]
```

In [ ]:
```
7. Explain the list and tuple with one basic program. Explain the difference betwe
them.
```

In [31]:
```
l=[]
dir([])
```

Out[31]:
```
['__add__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__delitem__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__iadd__',
 '__imul__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__mul__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__reversed__',
 '__rmul__',
 '__setattr__',
 '__setitem__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'append',
 'clear',
 'copy',
 'count',
 'extend',
 'index',
 'insert',
 'pop',
 'remove',
 'reverse',
 'sort']
```

In [ ]:
```
'append',
 'clear',
 'copy',
 'count',
 'extend',
 'index',
 'insert',
 'pop',
 'remove',
 'reverse',
 'sort']
```

In [32]:
```
l1=[100,200,300]
l2=['hey','hello','how r u']
l1.append(l2)
l1
```

Out[32]:
```
[100, 200, 300, ['hey', 'hello', 'how r u']]
```

In [34]:
```
l2.clear()
```

In [35]:
```
l2
```

Out[35]:
```
[]
```

In [37]:
```
l1.pop()
l1
```

Out[37]:
```
[100, 200]
```

In [38]:
```
dir(())
```

Out[38]:
```
['__add__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__getnewargs__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__mul__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__rmul__',
 '__setattr__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'count',
 'index']
```

In [ ]:
```
'count',
 'index'
```

In [39]:
```
t1=(100,100,200,2,2,2,3,3)
t1.count(2)
```

Out[39]:
```
3
```

In [42]:
```
t1.index(200)
```

Out[42]:
```
2
```

In [43]:
```
l1=[1,2,333]
l1[0]=75
l1
```

Out[43]:
```
[75, 2, 333]
```

In [ ]:
```
# lists are mutable
```

In [45]:
```
t3=(200,'varaha',20+30J)
t3[200]=[2]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[45], line 2
      1 t3=(200,'varaha',20+30J)
----> 2 t3[200]=[2]

TypeError: 'tuple' object does not support item assignment
```

In [ ]:
```
# tuple elements are not mutable
```

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: