In [1]:

```
#Q1. using Python Numpy array

import numpy as np
import re

input_str = "Google News is a news aggregator app developed by Google.\
            It presents a continuous flow of articles organized from thousands of pu
blishers and magazines.\
            Google News is available as an app on Android, iOS, and the Web.\
            Google released a beta version in September 2002 and the official app in
January 2006."


string = re.sub('[^a-zA-Z\d\s]', '', input_str)   #using regex to keep only space an
d alphanumeric characters


l= string.split()               # list of input_str
len1 =len(l)                    # lenth of list


arr = np.array([[]])            # empty array to copy list elements

for item in l:                  # apending list items to arr[]
    arr=np.append(arr,item)

validation_array= np.array([ ['the','other','by','google','200','news','is','flow',
'of','version'] ])

len2 = validation_array.size    # length of validation_array
count=0

for i in range(len2):

    for j in range(len1):
        if (validation_array[0][i]).lower()==(arr[j]).lower():
            count=count+1
    if count>=0:
        print(validation_array[0][i],'=',count)
        count=0
```

```
the = 2
other = 0
by = 1
google = 4
200 = 0
news = 3
is = 2
flow = 1
of = 2
version = 1
```

In [2]:

```
#Q1 using List

input_str = "Google News is a news aggregator app developed by Google.\
            It presents a continuous flow of articles organized from thousands of pu
blishers and magazines.\
            Google News is available as an app on Android, iOS, and the Web.\
            Google released a beta version in September 2002 and the official app in
January 2006."


string = re.sub('[^a-zA-Z\d\s]', '', input_str)   #using regex to keep only space an
d alphanumeric characters


input_list= string.split()          # list of input_str
len1 =len(input_list)               # length of list


validation_array= ['the','other','by','google','200','news','is','flow','of','versio
n']
len2 = len(validation_array)       # length of validation_array

count=0

for i in range(len2):
    for j in range(len1):
        if validation_array[i].lower() == input_list[j].lower():    #making list ite
ms to lower case
            count+=1
    if count>=0:
        print(validation_array[i],'=',count)
        count=0
```

```
the = 2
other = 0
by = 1
google = 4
200 = 0
news = 3
is = 2
flow = 1
of = 2
version = 1
```

In [3]:

```
#Q2. Using Numpy array

import numpy as np

input_array= np.array([ ["Google","app","news","aggregator","developed","continuous"
,"iOS",
                         "Android","flow","publishers","magazines","Web","released","b
eta","version","September","2006"] ])

rejected_items= np.array([ ["off", "September", "beta","iOS", "2006", "news", "versi
on", "chrome", "budget"] ])

new_array= np.array([[]])       #creating empty array to store new items

len1 =input_array.size
len2 =rejected_items.size
count=0

for i in range(len1):
    for j in range(len2):
        if input_array[0][i] == rejected_items[0][j]:
            count+=1
            break

    if count == 0:
            new_array = np.append(new_array, input_array[0][i])   #appending items o
ther than rejected_items

    count =0


print(new_array)
```

```
['Google' 'app' 'aggregator' 'developed' 'continuous' 'Android' 'flow'
 'publishers' 'magazines' 'Web' 'released']
```

In [4]:

```
#Q2. Using List


input_array= ["Google","app","news","aggregator","developed","continuous","iOS","And
roid","flow","publishers","magazines",
              "Web","released","beta","version","September","official","2006"]

rejected_items= ["google", "news", "september", "beta","ios", "2006", "off", "versio
n", "chrome", "budget"]


len1= len(input_array)              # length of input_array
len2= len(rejected_items)           # length of rejected_items

output_array = list(input_array)    # creating output_array list and copy input_array
list to it to get final updated list
                                    #  after removing rejected_items from original in
put_array list

for i in range(len1):
    for j in range(len2):
        if input_array[i].lower() == rejected_items[j].lower():   #compare two list
 to check rejected items in input_array
            output_array.remove(input_array[i])                  #remove rejected i
tem from output_array list

print(output_array)
```

```
['app', 'aggregator', 'developed', 'continuous', 'Android', 'flow', 'pub
lishers', 'magazines', 'Web', 'released', 'official']
```

In [ ]:

```

```