hamfest2018

October 1, 2018

```python
In [1]: # Written by Chetan Mandloi (VU3ULH)
        # Importing the required libraries
        import pandas as pd                  # For dataframes, reading html
        import matplotlib.pyplot as plt      # For Plotting
```

```python
In [2]: #Get current Delegate list from hamfest website
        #Please use higher end number in the url in registered candidates go over 1500
        hams = pd.read_html('http://www.hamfestindia2018.com/Delegates/List?start=0&end=1500')
```

```python
In [3]: #hams
```

```python
In [4]: #Just formatting the dataframe properly
        hams = hams.rename(columns=hams.iloc[0])
        hams = hams.drop([0])
        hams
```

```
Out[4]:        # Delegate Code Callsign                 Name     Gender  \
        1    1401     HFI00001   VU2ZRJ          Dr.Rajan Sinha     Old Man
        2    1402     HFI00002   VU3UEH           Dr.M Rangarao     Old Man
        3    1403     HFI00003   VU3ZHN             Samar Jynar     Old Man
        4    1404     HFI00004   VU3LOH                K.Lohita     Old Man
        5    1405     HFI00005   VU3OXI             T Ravi Teja     Old Man
        6    1406     HFI00006   VU2TBM    T.B.M.Madhu Mohan Rao     Old Man
        7    1407     HFI00007   VU3ZKR               K.Ramesh     Old Man
        8    1408     HFI00008   VU3HMB            Prakash Modh     Old Man
        9    1409     HFI00009   VU3OGP                 Snahail     Old Man
        10   1410     HFI00010   VU2JAU              Jayu Bhide     Old Man
        11   1411     HFI00011   VU2KOC              Om Prakash     Old Man
        12   1412     HFI00012      SWL             VU2KOC's XYL  Young Lady
        13   1413     HFI00013   VU2BRJ                   Joshi     Old Man
        14   1414     HFI00014      SWL             VU2BRJ's XYL  Young Lady
        15   1415     HFI00015   VU3WON                 Galgali     Old Man
        16   1416     HFI00016      SWL             VU3WON's XYL  Young Lady
        17   1417     HFI00017    VU2OO               R.D.Gupta     Old Man
        18   1418     HFI00018   VU2OOO          Mrs Rani Gupta  Young Lady
        19   1419     HFI00019   VU2EPT            Ernest Peter     Old Man
        20   1420     HFI00020   VU3AWI               Ramaswamy     Old Man
        21   1421     HFI00021   VU2ZMK                Mahendra     Old Man
```

```
22    1422      HFI00022    VU3YYO              Arvind      Old Man
23    1423      HFI00023     VU2FI        Dr.S.Sathyapal   Old Man
24    1424      HFI00024       SWL            S.Lakshmi   Young Lady
25    1425      HFI00025    VU3SIM             S.Sowmini   Young Lady
26    1426      HFI00026    VU3HJC           Raghavendra   Old Man
27    1427      HFI00027    VU2DEV             Ramprabhu   Old Man
28    1428      HFI00028    VU2VTM             R.J.Marcus   Old Man
29    1429      HFI00029    VU3UFF   Dr.Venka Shiva Reddy   Old Man
30    1430      HFI00030    VU2ZUB           Subramanyam   Old Man
...    ...          ...       ...                  ...       ...
1279  2679      HFI01279    VU2LSW      Narayana Rao MPR   Old Man
1280  2680      HFI01280       SWL   Dhanabal Nagendiran   Old Man
1281  2681      HFI01281    VU3DYB            RAGESH P R   Old Man
1282  2682      HFI01282    VU3SMZ           Mukundan S.   Old Man
1283  2683      HFI01283    VU3ULH         Chetan Mandloi   Old Man
1284  2684      HFI01284    VU3PQR     Raghu babu Peeriga   Old Man
1285  2685      HFI01285       SWL         Rajini Peeriga   Young Lady
1286  2686      HFI01286       SWL       Balasubbhramani   Old Man
1287  2687      HFI01287    VU2YLT   TEJAS YASHWANT LALIT   Old Man
1288  2688      HFI01288    VU3JYC        Mohammed Asif T   Old Man
1289  2689      HFI01289       SWL        SHANKAR JAYARAJ   Old Man
1290  2690      HFI01290       SWL         ATHIRA SAJEEV   Young Lady
1291  2691      HFI01291    VU3OTJ           C.JEYALAKSHMI   Young Lady
1292  2692      HFI01292    VU3OTE            R GAYATHRI   Young Lady
1293  2693      HFI01293    VU3VRF         V RAMESHKUMAR   Old Man
1294  2694      HFI01294    VU3OTF          M.A.PADMANABAN   Old Man
1295  2695      HFI01295       SWL      Mohammed Saleh V K   Old Man
1296  2696      HFI01296    VU2DOS     Dr.Prabhu Das Ankala   Old Man
1297  2697      HFI01297    VU2ABS  Aravind Balasubramanian   Old Man
1298  2698      HFI01298    VU2GRR       G R Rajarajeswari   Young Lady
1299  2699      HFI01299       SWL          Ajeya Aravind   Young Lady
1300  2700      HFI01300    VU3JVZ            N.S.SHARATH   Old Man
1301  2701      HFI01301    VU2SVF         Subramanian S.   Old Man
1302  2702      HFI01302       SWL         Seema Dadheech   Young Lady
1303  2703      HFI01303    VU2XPR           S.P.RAJENDRAN   Old Man
1304  2704      HFI01304       SWL        ANITHARAJENDRAN   Young Lady
1305  2705      HFI01305    VU3CVQ        C.V.RAVICHANDRAN   Old Man
1306  2706      HFI01306    VU2PGU     Pawan Kumar Agarwal   Old Man
1307  2707      HFI01307    VU3OTN      K.V.RAMACHANDRAN   Old Man
1308  2708      HFI01308       SWL          Team – VU3NOV   Old Man

            City          State Country
1            NaN            NaN   India
2     Vijayawada  Andhra Pradesh   India
3            NaN            NaN   India
4     Vijayawada            NaN   India
5            NaN            NaN   India
6            NaN            NaN   India
```

```
7              NaN          NaN   India
8              NaN          NaN   India
9              NaN          NaN   India
10         Gwalior          NaN   India
11        Belaguam          NaN   India
12        Belaguam          NaN   India
13         Dharwad      Dharwad   India
14         DHARWAD    KARNATAKA   India
15         Bijapur          NaN   India
16         Bijapur          NaN   India
17             NaN          NaN   India
18             NaN          NaN   India
19             NaN          NaN   India
20             NaN          NaN   India
21             NaN          Goa   India
22             NaN          NaN   India
23       Bengaluru    Karnataka   India
24       Bengaluru    Karnataka   India
25       Bengaluru    Karnataka   India
26       Bengaluru    Karnataka   India
27       Bengaluru    Karnataka   India
28       Bengaluru    Karnataka   India
29       Bengaluru    Karnataka   India
30       Bengaluru    Karnataka   India
...            ...          ...     ...
1279       Chennai   Tamil Nadu   India
1280      Dindigul    Tamilnadu   India
1281     ERNAKULAM       KERALA   India
1282       Chennai   Tamil Nadu   India
1283     Bengaluru    Karnataka   India
1284     Hyderabad    Telangana   India
1285     Hyderabad    Telangana   India
1286     Bengaluru    Karnataka   India
1287        MUMBAI  MAHARASHTRA   India
1288     Bangalore    Karnataka   India
1289    TRIVANDRUM       KERALA   India
1290    TRIVANDRUM       KERALA   India
1291    RAJAPALAYAM  TAMIL NADU   India
1292    RAJAPALAYAM  TAMIL NADU   India
1293    RAJAPALAYAM  TAMIL NADU   India
1294    RAJAPALAYAM  TAMIL NADU   India
1295     Bangalore    Karnataka   India
1296  Secunderabad    Telengana   India
1297       Chennai   Tamil Nadu   India
1298       Chennai   Tamil Nadu   India
1299       Chennai   Tamil Nadu   India
1300     Bangalore    Karnataka   India
1301       Chennai   Tamil Nadu   India
```

```
1302      Bangalore        Karnataka    India
1303      Kumbakonam       Tamilnadu    India
1304      Kumbakonam       Tamilnadu    India
1305      Kumbakonam       Tamilnadu    India
1306      Sambalpur          Odisha     India
1307        KOCHI            KERALA     India
1308      Bangalore        Karnataka    India

[1308 rows x 8 columns]
```
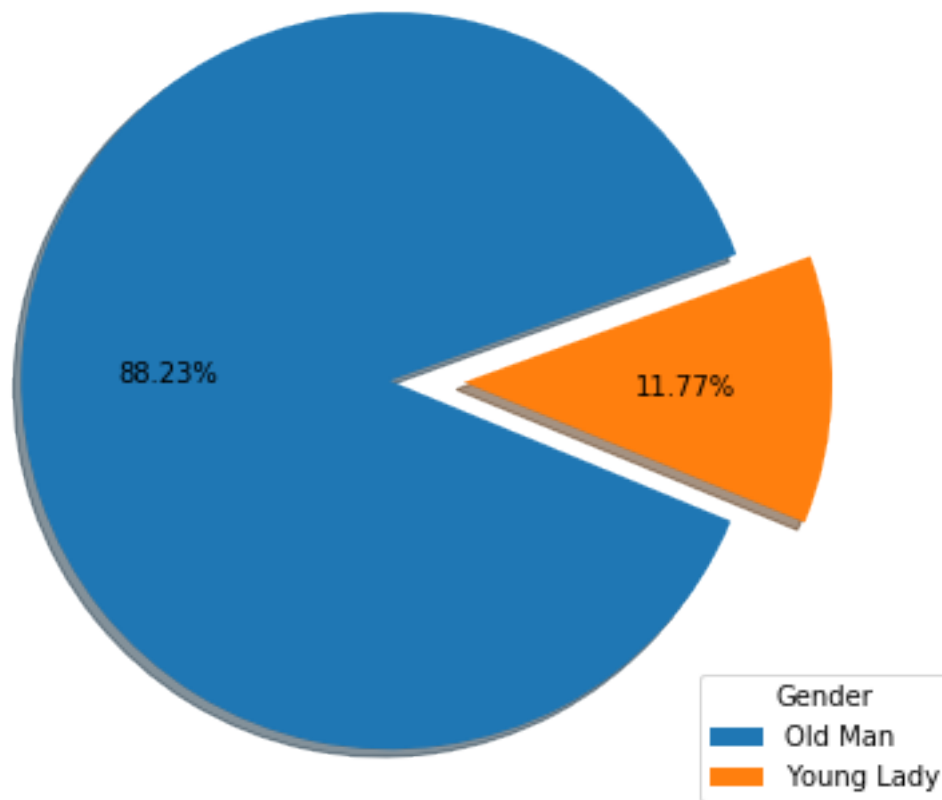
In [5]: `#hams['Gender']`

In [6]:
```python
# Pie Chart Showing gender breakdown
gend = hams['Gender'].value_counts()
fig1,ax1 = plt.subplots()
ax1.pie(gend, explode = (0,0.2), autopct='%1.2f%%',
        shadow = True, startangle = 20)
ax1.legend(('Old Man','Young Lady'),title ='Gender', loc = 'lower right',bbox_to_ancho
ax1.axis('equal')
fig1.set_figheight(6)
fig1.set_figwidth(6)
plt.title("Hamfest 2018 Gender Breakdown", fontdict= {'fontsize': 16,
                                      'fontweight' : 5,
                                      'verticalalignment': 'baseline','horizontalalignm
plt.show()
```

Hamfest 2018 Gender Breakdown

88.23%

11.77%

Gender
■ Old Man
■ Young Lady

In [7]: `# Correcting all the various conflicting state names,`
`# You might think why I didn't just convert everything to same case but just case corr`
`# would not have fixed other errors like spelling mistakes, and improper state names l`
`# people who made typos like tamilandu, TN, Gujrat etc`
`#`
`# NOTE SOME ENTRIES IN THE BEGINING ARE NaN. THESE ARE BEING IGNORED`
`#`
`refined_hams = hams['State'].replace(["Dharwad", "Tamilnadu","KARNATAKA","karnataka","`
`                                      "TAMILNADU","Telengana","GUJRAT","GUJARAT","MAHAR`
`                                      "ANDHRAPRADESH","TELANGANA","KERALA STATE","Tamil`
`                                      "kerala","tamil nadu","KARANATAKA","Andhrapradesh`
`                                      "TN","Tamilnadu ,Trichy 620004.","ODISHA",'MAHARAS`
`                                      "MANGALAPURAM ROAD","Near Kerala Govt. NGO Quarter`
`                                      "Near Grindwell Norton","telangana",'BIHAR',"Mahar`
`                            ["Karnataka", "Tamil Nadu","Karnataka","Karnataka","Kerala","Andh`
`                             "Tamil Nadu","Telangana","Gujarat","Gujarat","Maharastra","West`
`                             "Andhra Pradesh","Telangana","Kerala","Tamil Nadu","Maharastra","`

5

```
                            "Kerala","Tamil Nadu", "Karnataka","Andhra Pradesh","Tamil Nadu"
                            "Tamil Nadu","Tamil Nadu","Odisha","Maharastra","Andhra Pradesh"
                            "Kerala","Kerala",'Uttar Pradesh',"Delhi","Gujarat",
                            "Karnataka","Telangana",'Bihar',"Maharastra","Delhi","Maharashtr
                        ])
          #refined_hams

In [8]: states = refined_hams.value_counts()
        states

Out[8]: Karnataka          688
        Kerala             161
        Tamil Nadu         160
        Maharashtra         77
        Andhra Pradesh      71
        Telangana           32
        Gujarat             26
        West Bengal         23
        Bihar                8
        USA                  7
        Uttar Pradesh        6
        Rajasthan            5
        Puducherry           3
        Delhi                3
        Jharkhand            3
        Assam                3
        Odisha               2
        Goa                  2
        ONTARIO              2
        Chhattisgarh         1
        Chicago              1
        Haryana              1
        India                1
        Manipur              1
        Madhya Pradesh       1
        Doha                 1
        Tripura              1
        Name: State, dtype: int64

In [9]: major_states = states[:9]
        major_states["Others"]= states[9:].sum()
        #major_states.index

In [10]: # Pie Chart Showing statewide distribution
         fig1,ax1 = plt.subplots()
         ax1.pie(major_states, explode = (0,0.05,0.03,0.06,0.07,0.08,0.09,0.1,0.1,0.1), autopct
                 shadow = True, startangle = 20)
         ax1.legend(major_states.index,title ='State', loc = 'lower right',bbox_to_anchor = (1
         ax1.axis('equal')
```
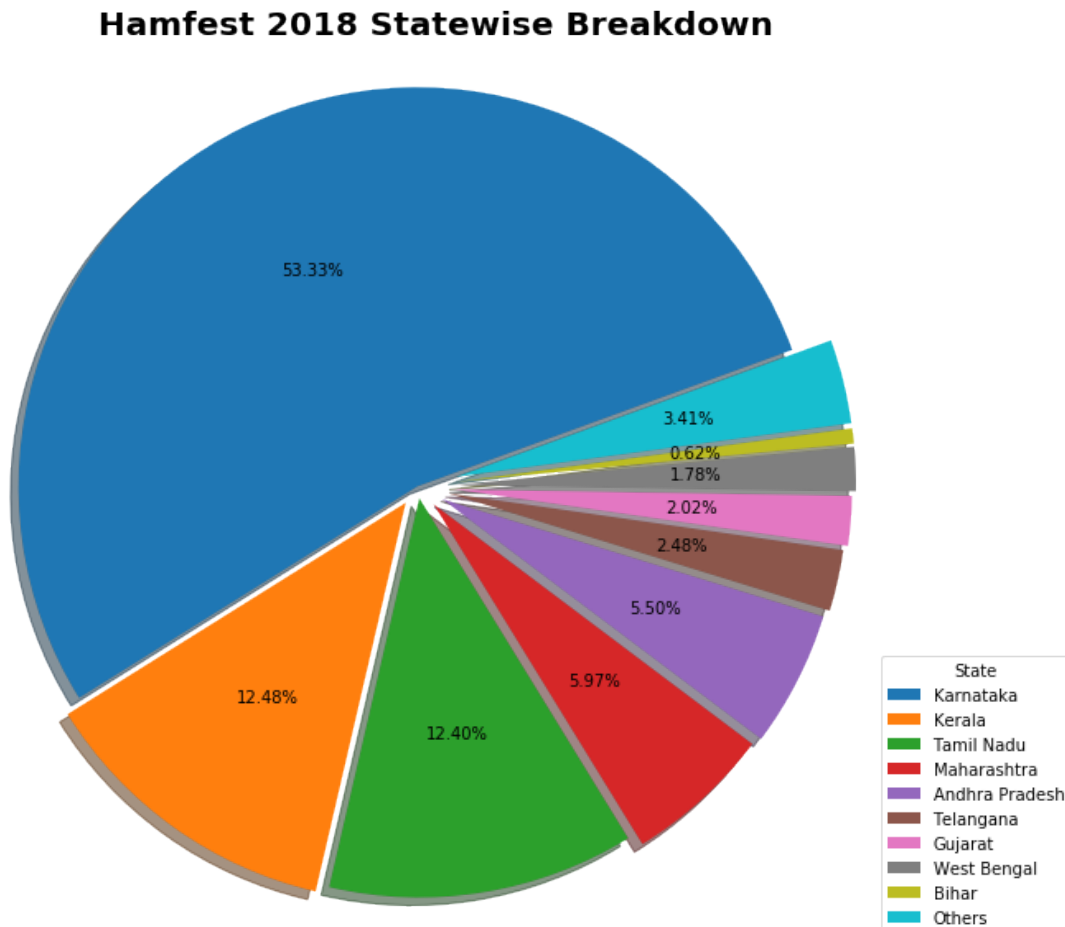
```
fig1.set_figheight(10)
fig1.set_figwidth(10)
plt.title("Hamfest 2018 Statewise Breakdown", fontdict= {'fontsize': 20,
                                            'fontweight' : 1000,
                                            'verticalalignment': 'baseline','horizontalalignm

plt.show()
```
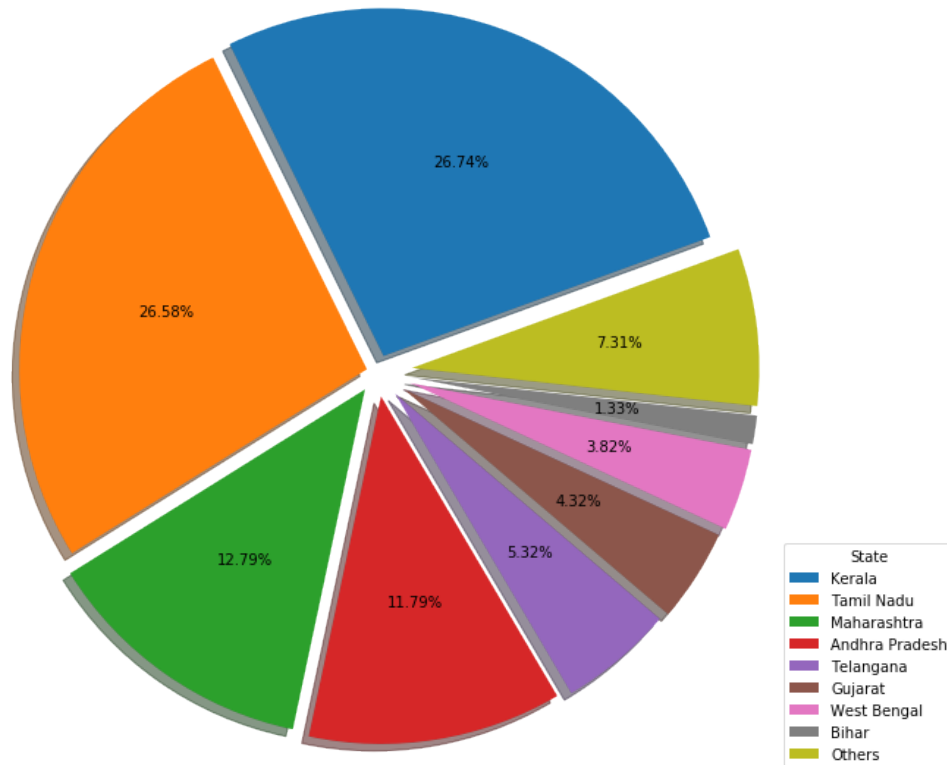
Hamfest 2018 Statewise Breakdown

53.33%

3.41%
0.62%
1.78%
2.02%
2.48%
5.50%
5.97%
12.48%
12.40%

State
Karnataka
Kerala
Tamil Nadu
Maharashtra
Andhra Pradesh
Telangana
Gujarat
West Bengal
Bihar
Others

In [11]:
```
# Pie Chart Showing statewide distribution
fig1,ax1 = plt.subplots()
ax1.pie(major_states[1:], explode = (0.05,0.03,0.06,0.07,0.08,0.09,0.1,0.1,0.1), autop
        shadow = True, startangle = 20)
ax1.legend(major_states[1:].index,title ='State', loc = 'lower right',bbox_to_anchor =
ax1.axis('equal')
fig1.set_figheight(10)
fig1.set_figwidth(10)
plt.title("Hamfest 2018 Outside Visitors(Karnataka removed from the pie)", fontdict= {
                                            'fontweight' : 1000,
```

```
plt.show()
```

Hamfest 2018 Outside Visitors(Karnataka removed from the pie)


```
In [12]: calls = list(hams["Callsign"])

In [13]: #calls

In [14]: calls2 = calls[:]
         for i in calls:
             if "VU3" in i or "VU2" in i or "SWL" in i or "SLW" in i or "SWK" in i or "SW" == i
                 calls2.remove(i)
         print("Notable callsigns not in VU2 and VU3 Series: ", calls2)

Notable callsigns not in VU2 and VU3 Series:  ['N9SFK', 'KD0NER', 'VA3UMA', 'VA3RNY', 'KD0NFG'

In [15]: vu2 = 0
         vu3 = 0
         SWL = 0
         for i in calls:
             if "VU2" in i:
```

```
                vu2 = vu2 + 1
            elif "VU3" in i:
                vu3 = vu3 + 1
            elif "SWL" in i or "SLW" in i or "SWK" in i or "SW" == i:
                SWL = SWL + 1
        print("Hams with VU2 Callsigns:   ", vu2,"\nHams with VU3 Callsigns:   ",vu3,"\nShortu
            SWL,"\nHams with Other Callsigns: ",len(calls)-vu2-vu3-SWL)


Hams with VU2 Callsigns:    304
Hams with VU3 Callsigns:    524
Shortwave listners(SWLs):   471
Hams with Other Callsigns:  9
```
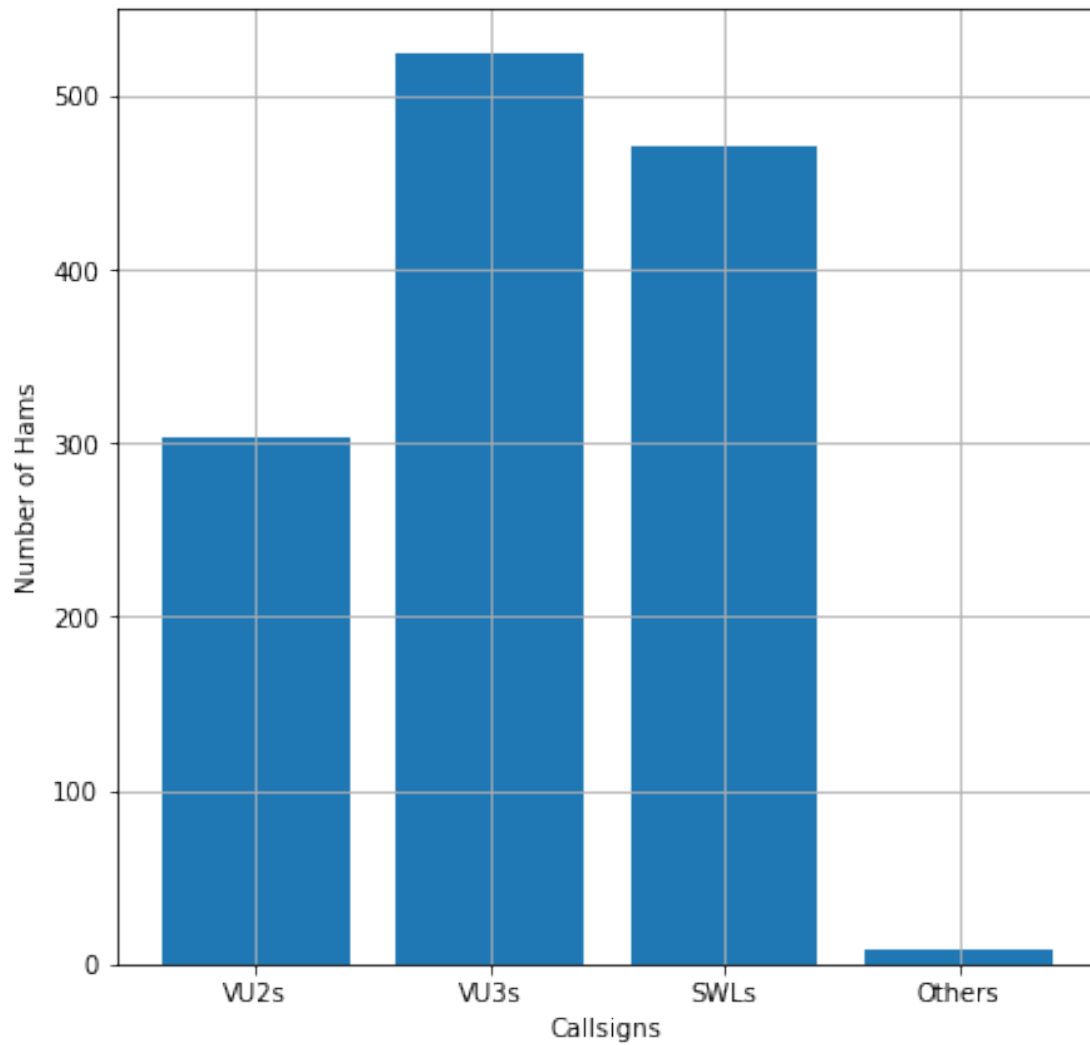
```
In [26]: fig1,ax1 = plt.subplots()
         ax1.bar(["VU2s","VU3s","SWLs","Others"],[vu2,vu3,SWL,len(calls)-vu2-vu3-SWL])
         plt.xlabel("Callsigns")
         plt.ylabel("Number of Hams")
         fig1.set_figheight(7)
         fig1.set_figwidth(7)
         plt.grid(True)
         plt.show()
```

```
In [20]: cities = hams["City"]
         cities = cities.replace(["BANGALORE","Bangalore","HYDERABAD","CHENNAI","MUMBAI","THIRU
                                 ["Bengaluru","Bengaluru","Hyderabad","Chennai","Mumbai","Thiru
         print("       Top Cities: ")
         print(cities.value_counts().head(20))

         Top Cities:
Bengaluru            599
Chennai               42
Mumbai                32
Hyderabad             27
Thiruvananthapuram    24
Kolkata               17
Pune                  14
```

```
VIJAYAWADA              13
Coimbatore              13
NELLORE                 10
WEST GODAVARI            9
KOLLAM                   8
VELLORE                  8
USA                      7
SALEM                    7
TUMKUR                   7
MADURAI                  7
Kalpetta                 7
COIMBATORE               6
Patna                    6
Name: City, dtype: int64
```

In [ ]: