

In [2]:

```
import pandas as pd
from matplotlib import pyplot as plt
plt.rcParams["figure.figsize"]=(18,10)
```

Reading CSV file

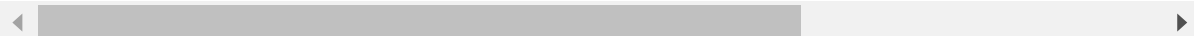
In [3]:

```
ab = pd.read_csv(r'D:\health.csv')
ab
```

Out[3]:

	gender	age	hypertension	heart_disease	ever_married	work_type	Residence_type	avg
0	Male	67.0	0	1	Yes	Private	Urban	
1	Male	80.0	0	1	Yes	Private	Rural	
2	Female	49.0	0	0	Yes	Private	Urban	
3	Female	79.0	1	0	Yes	Self-employed	Rural	
4	Male	81.0	0	0	Yes	Private	Urban	
...
4976	Male	41.0	0	0	No	Private	Rural	
4977	Male	40.0	0	0	Yes	Private	Urban	
4978	Female	45.0	1	0	Yes	Govt_job	Rural	
4979	Male	40.0	0	0	Yes	Private	Rural	
4980	Female	80.0	1	0	Yes	Private	Urban	

4981 rows × 11 columns



Reading columns

In []:

```
gen = ab['gender']
st = ab['stroke']
w = ab['work_type']
smoke = ab['smoking_status']
mry = ab['ever_married']
res = ab['Residence_type']
heart = ab['heart_disease']
hyper = ab['hypertension']
```

Defining Functions for plotting graphs

In []:

In [90]:

```

def disease():
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    for i in range(4981):
        if(heart[i]==1 and hyper[i]==1 and gen[i]=='Male'):
            l=l+1
        elif(heart[i]==1 and hyper[i]==1 and gen[i]=='Female'):
            s=s+1
        elif(heart[i]==1 and hyper[i]==0 and gen[i]=='Male'):
            t=t+1
        elif(heart[i]==1 and hyper[i]==0 and gen[i]=='Female'):
            h=h+1
        elif(heart[i]==0 and hyper[i]==1 and gen[i]=='Male'):
            g=g+1
        elif(heart[i]==0 and hyper[i]==1 and gen[i]=='Female'):
            f=f+1
        elif(heart[i]==0 and hyper[i]==0 and gen[i]=='Male'):
            x=x+1
        elif(heart[i]==0 and hyper[i]==0 and gen[i]=='Female'):
            y=y+1
    name = ['Male suffer from hypertension and heart disease', 'Male suffer from heart disea
            'Male suffer from hypertension', 'Male with no hypertension and no heart disease
            'Female suffer from hypertension and heart disease', 'Female suffer from heart d
            'Female suffer from hypertension', 'Female with no hypertension and no heart dise
    num = [l,t,g,x,s,h,f,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(name,rotation=45)
    plt.plot(name,num,color = 'green',linewidth='4', marker='o',ms='8')
    plt.show()

```

In []:

In [91]:

```
def place():
    m=0
    n=0
    o=0
    p=0
    for i in range(4981):
        if(res[i]=='Urban' and st[i]==1):
            m=m+1
        elif(res[i]=='Rural' and st[i]==1):
            n=n+1

    for j in range(4981):
        if(res[j]=='Urban' and st[j]==0):
            o=o+1
        elif(res[j]=='Rural' and st[j]==0):
            p=p+1

    x = ['Urban people with 1 stroke', 'Urban people with 0 stroke', 'Rural people with 1 str
    y = [m,o,n,p]
    print(m,n)
    plt.plot(x,y,color='r',linewidth='4',marker='o',ms='8')
```

In [4]:

```

def vedzz():
    print("Analysis of persons suffered 1 stroked with work-type")
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    for i in range(0,4981):
        if(w[i]=='Private' and gen[i] == 'Male' and st[i]==1):
            l=l+1
        elif(w[i]=='Self-employed' and gen[i] == 'Male' and st[i]==1):
            s=s+1
        elif(w[i]=='Govt_job' and gen[i] == 'Male' and st[i]==1):
            t=t+1
        elif(w[i]=='Private' and gen[i] == 'Female' and st[i]==1):
            h=h+1
        elif(w[i]=='Self-employed' and gen[i] == 'Female' and st[i]==1):
            g=g+1
        elif(w[i]=='Govt_job' and gen[i] == 'Female' and st[i]==1):
            f=f+1
        elif(gen[i]=='Male'and st[i]==1):
            x=x+1
        elif(gen[i]=='Female'and st[i]==1):
            y=y+1
    ved = ['Males with Private work type', 'Males with Self-employed work type', 'Males with
    'Females with Private work type', 'Females with Self-employed work type', 'Females with
    'Males with Other work type', 'Females with Other work type']
    yas = [l,s,t,h,g,f,x,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(ved,rotation=45)
    plt.bar(ved,yas)
    print(l,s,t,h,g,f,x,y)
    plt.title("Data Analysis of victims of brain strome")
    plt.xlabel("No of cases")
    plt.ylabel("Type of Peoples")
    plt.show()

```

In [28]:

```

def mohod():
    print("Analysis of persons suffered 0 stroked with work-type")
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    for i in range(0,4981):
        if(w[i]=='Private' and gen[i] == 'Male' and st[i]==0):
            l=l+1
        elif(w[i]=='Self-employed' and gen[i] == 'Male' and st[i]==0):
            s=s+1
        elif(w[i]=='Govt_job' and gen[i] == 'Male' and st[i]==0):
            t=t+1
        elif(w[i]=='Private' and gen[i] == 'Female' and st[i]==0):
            h=h+1
        elif(w[i]=='Self-employed' and gen[i] == 'Female' and st[i]==0):
            g=g+1
        elif(w[i]=='Govt_job' and gen[i] == 'Female' and st[i]==0):
            f=f+1
        elif(gen[i]=='Male' and st[i]==1):
            x=x+1
        else:
            y=y+1
    ved = ['Males with Private work type', 'Males with Self-employed work type', 'Males with
        'Females with Private work type', 'Females with Self-employed work type', 'Females with
        'Males with Other work type', 'Females with Other work type']
    yas = [l,s,t,h,g,f,x,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(ved,rotation=45)
    print(l,s,t,h,g,f,x,y)
    plt.pie(yas,labels=ved)
    plt.title("Data Analysis of persons who doesnt affected by of brain strome")
    plt.show()

```

In [38]:

```

smoke = ab['smoking_status']
def utkarsh():
    print("Analysis of persons suffered 1 stroked v/s smoking")
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    for i in range(0,4981):
        if(smoke[i]=='formerly smoked' and gen[i] == 'Male' and st[i]==1):
            l=l+1
        elif(smoke[i]=='never smoked' and gen[i] == 'Male' and st[i]==1):
            s=s+1
        elif(smoke[i]=='smokes' and gen[i] == 'Male' and st[i]==1):
            t=t+1
        elif(smoke[i]=='formerly smoked' and gen[i] == 'Female' and st[i]==1):
            h=h+1
        elif(smoke[i]=='never smoked' and gen[i] == 'Female' and st[i]==1):
            g=g+1
        elif(smoke[i]=='smokes' and gen[i] == 'Female' and st[i]==1):
            f=f+1
        elif(smoke[i]=='Unknown' and gen[i]=='Male'and st[i]==1):
            x=x+1
        elif(smoke[i]=='Unknown' and gen[i]=='Female'and st[i]==1):
            y=y+1
    ved = ['Males smokes formly', 'Males never smoked','Males addictive smoking',
           'Females smokes formly','Females never smoked','Females addictive smoking',
           'Males with unknown data','Females with unknown data']
    yas = [l,s,t,h,g,f,x,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(ved,rotation=45)
    print(l,s,t,h,g,f,x,y)
    plt.bar(ved,yas, color='pink')
    plt.title("Data Analysis of persons who affected by of brain strome")
    plt.xlabel("No of cases")
    plt.ylabel("Type of Peoples")
    plt.show()

```

In [40]:

```

def nikhil():
    print("Analysis of persons suffered 0 stroked v/s smoking")
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    for i in range(0,4981):
        if(smoke[i]=='formerly smoked' and gen[i] == 'Male' and st[i]==0):
            l=l+1
        elif(smoke[i]=='never smoked' and gen[i] == 'Male' and st[i]==0):
            s=s+1
        elif(smoke[i]=='smokes' and gen[i] == 'Male' and st[i]==0):
            t=t+1
        elif(smoke[i]=='formerly smoked' and gen[i] == 'Female' and st[i]==0):
            h=h+1
        elif(smoke[i]=='never smoked' and gen[i] == 'Female' and st[i]==0):
            g=g+1
        elif(smoke[i]=='smokes' and gen[i] == 'Female' and st[i]==0):
            f=f+1
        elif(smoke[i]=='Unknown' and gen[i]=='Male'and st[i]==0):
            x=x+1
        elif(smoke[i]=='Unknown' and gen[i]=='Female'and st[i]==0):
            y=y+1
    ved = ['Males smokes formly', 'Males never smoked', 'Males addictive smoking',
           'Females smokes formly', 'Females never smoked', 'Females addictive smoking',
           'Males with unknown data', 'Females with unknown data']
    yas = [l,s,t,h,g,f,x,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(ved,rotation=45)
    print(l,s,t,h,g,f,x,y)
    plt.bar(ved,yas, color='black')
    plt.title("Data Analysis of persons who doesnt affected by of brain strome")
    plt.xlabel("No of cases")
    plt.ylabel("Type of Peoples")
    plt.show()

```

In [86]:

```

def vish():
    l=0
    s=0
    t=0
    h=0
    g=0
    f=0
    x=0
    y=0
    vs = ['Married males who got brain stroke','Married males who doesnt got brain stroke',
          'Unmarried males who got brain stroke','Unmarried males who doesnt got brain stro',
          'Married females who got brain stroke','Married females who doesnt got brain stro',
          'Unmarried females who got brain stroke','Unmarried females who doesnt got brain
    for i in range(0,4981):
        if(mry[i]=='Yes' and gen[i]=='Male' and st[i]==1):
            l=l+1
        elif(mry[i]=='Yes' and gen[i]=='Male'and st[i]==0):
            s=s+1
        elif(mry[i]=='No' and gen[i]=='Male'and st[i]==1):
            t=t+1
        elif(mry[i]=='No' and gen[i]=='Male'and st[i]==0):
            h=h+1
        elif(mry[i]=='Yes' and gen[i]=='Female'and st[i]==1):
            g=g+1
        elif(mry[i]=='Yes' and gen[i]=='Female'and st[i]==0):
            f=f+1
        elif(mry[i]=='No' and gen[i]=='Female'and st[i]==1):
            x=x+1
        elif(mry[i]=='No' and gen[i]=='Female'and st[i]==0):
            y=y+1
    yas = [l,s,t,h,g,f,x,y]
    fig=plt.figure(1)
    ax=fig.add_subplot(111)
    ax.set_xticklabels(vs,rotation=45)
    print(l,s,t,h,g,f,x,y)
    plt.plot(vs,yas,color='Orange',linewidth='4',marker='o',ms='8')
    plt.title("Data Analysis of brain strome")
    plt.xlabel("No of cases")
    plt.ylabel("Type of Peoples")
    plt.show()

```

Plotting Graphs

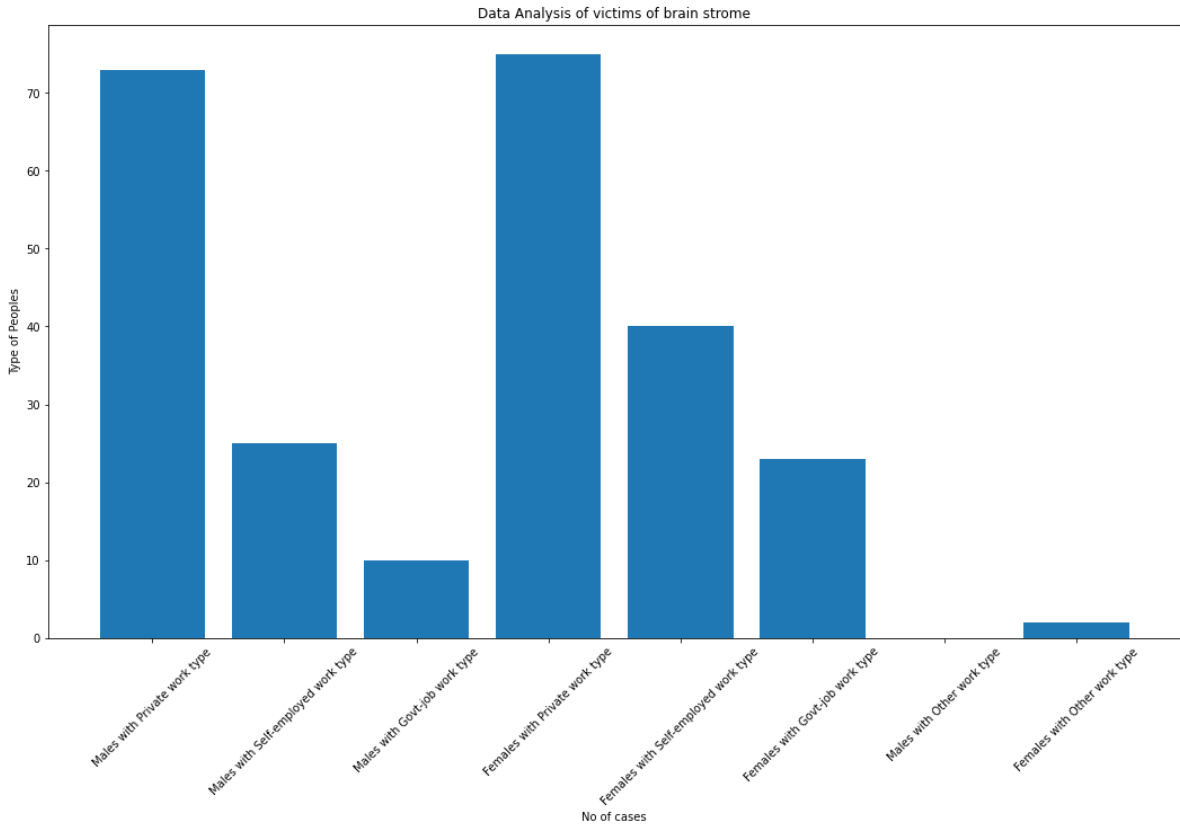
In [9]:

```
vedzz()
```

Analysis of persons suffered 1 stroked with work-type

C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\3259246739.py:40: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(ved,rotation=45)

73 25 10 75 40 23 0 2

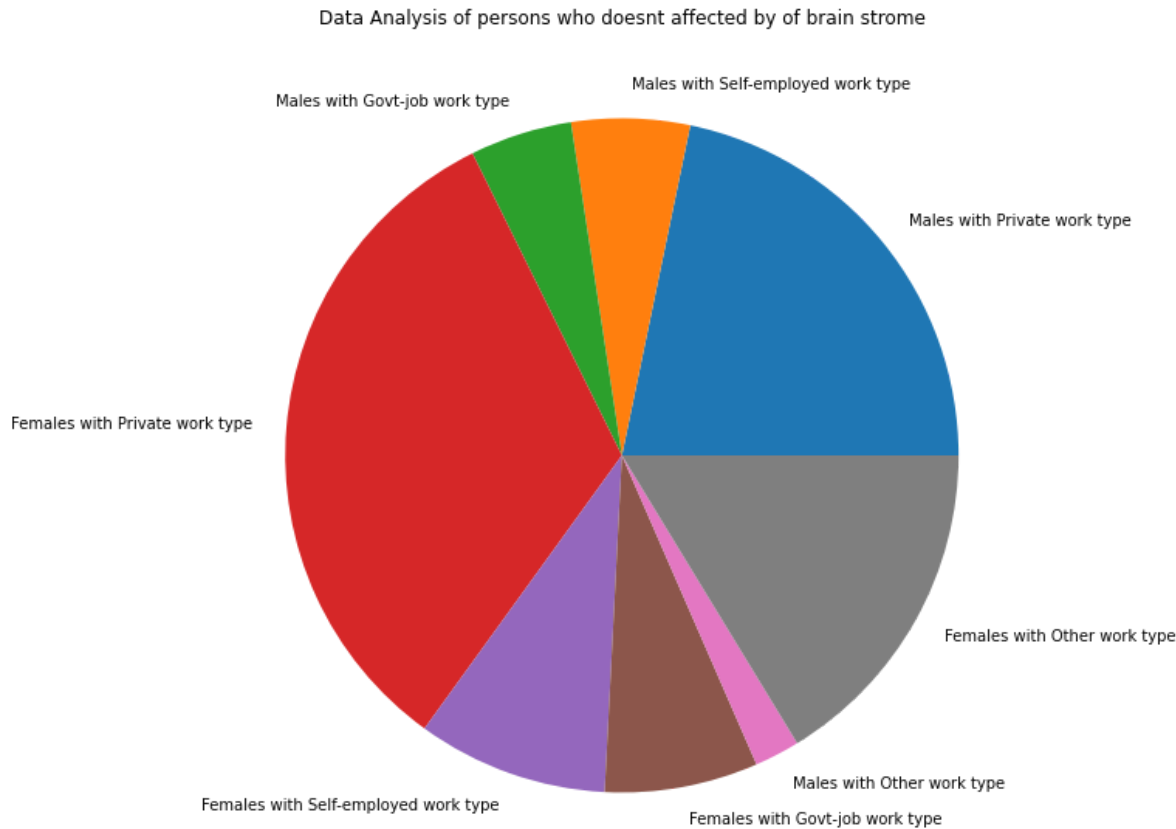


In [29]:

```
mohod()
```

Analysis of persons suffered 0 stroked with work-type
1083 283 244 1629 456 367 108 811

C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\451539475.py:34: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(ved,rotation=45)

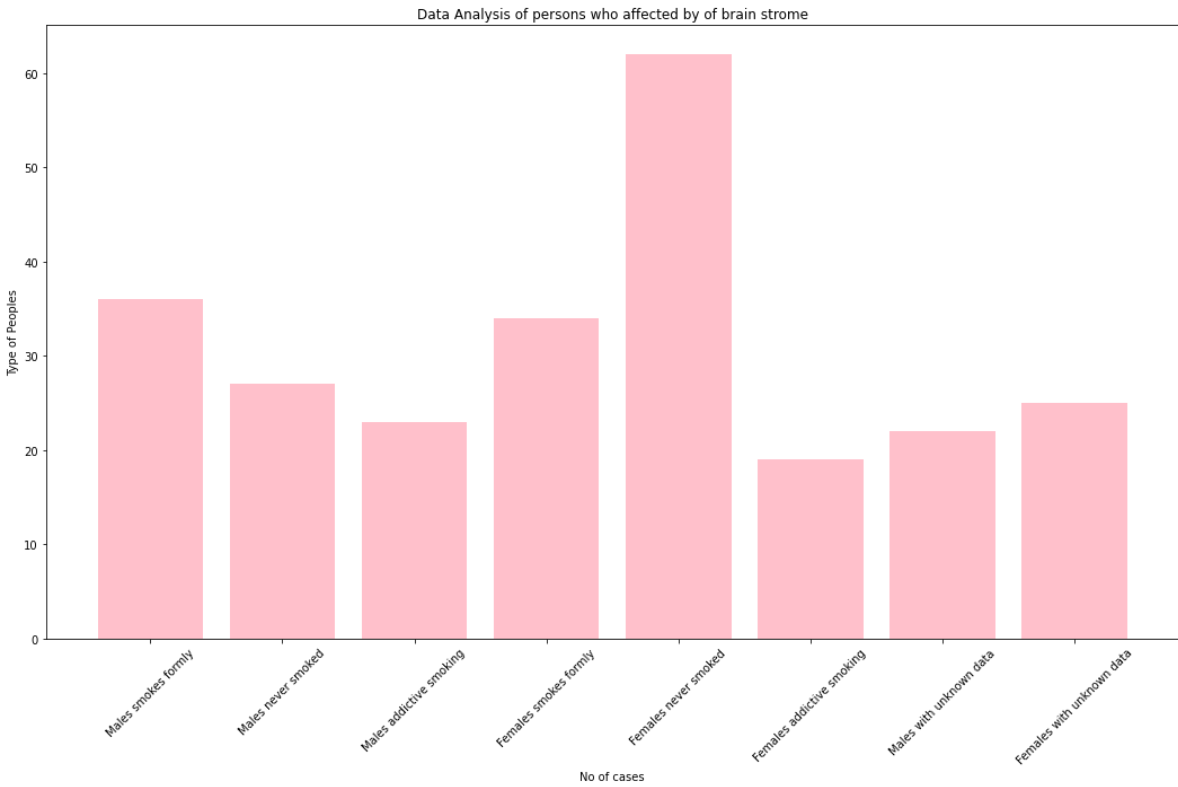


In [39]:

```
utkarsh()
```

Analysis of persons suffered 1 stroked v/s smoking
36 27 23 34 62 19 22 25

```
C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\3646320829.py:35: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(ved,rotation=45)
```

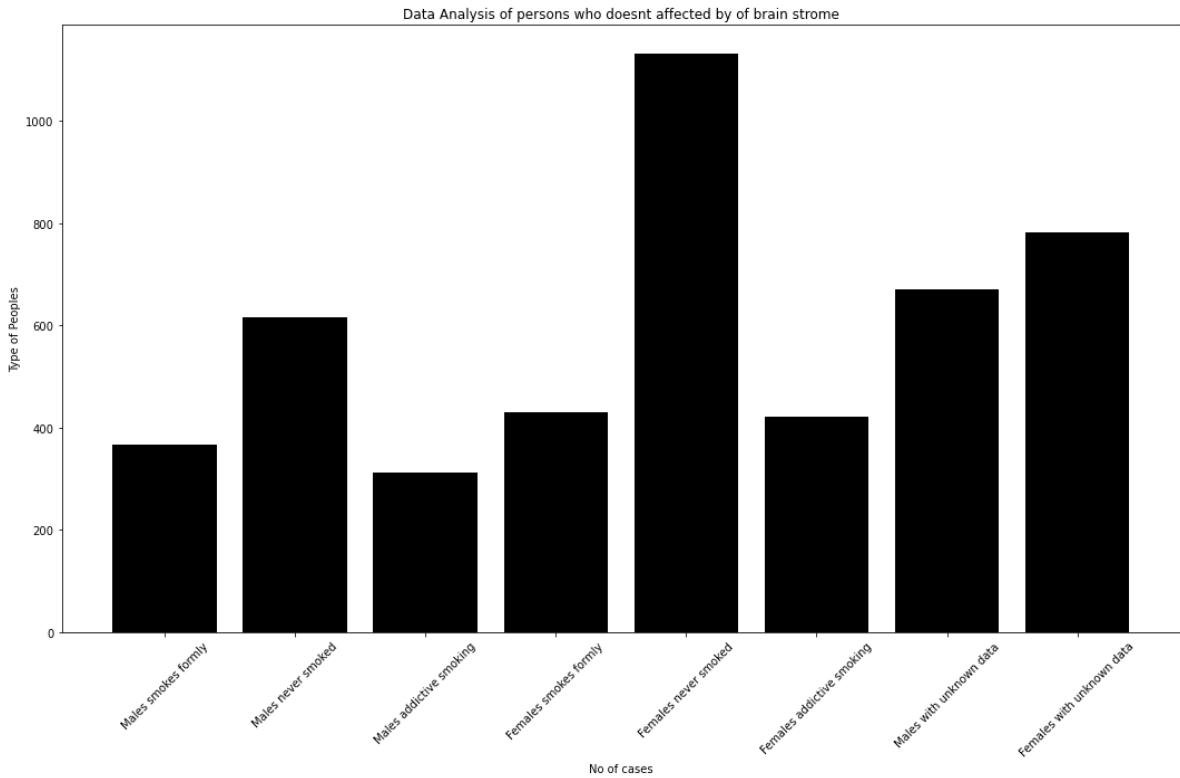


In [41]:

```
nikhil()
```

Analysis of persons suffered 0 stroked v/s smoking
367 617 312 430 1132 422 670 783

C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\2826101881.py:34: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(ved,rotation=45)

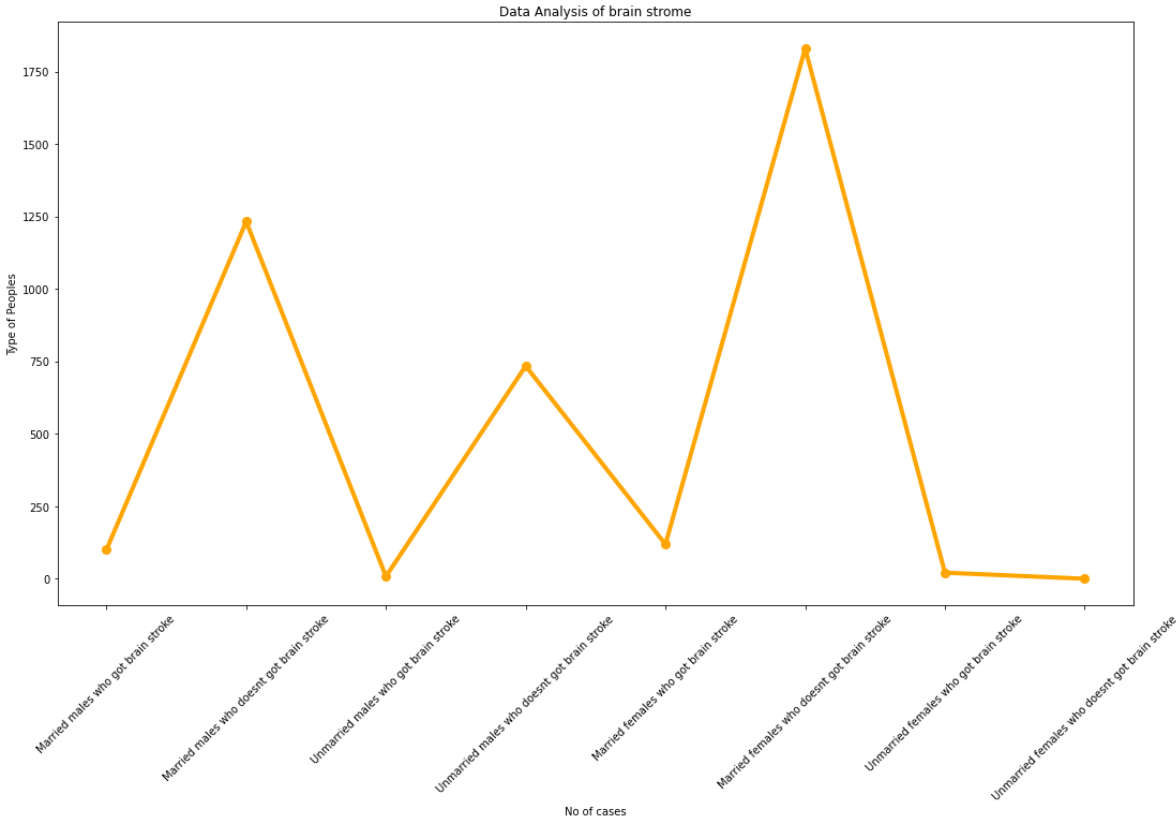


In [87]:

```
vish()
```

C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\3214480166.py:34: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(vs,rotation=45)

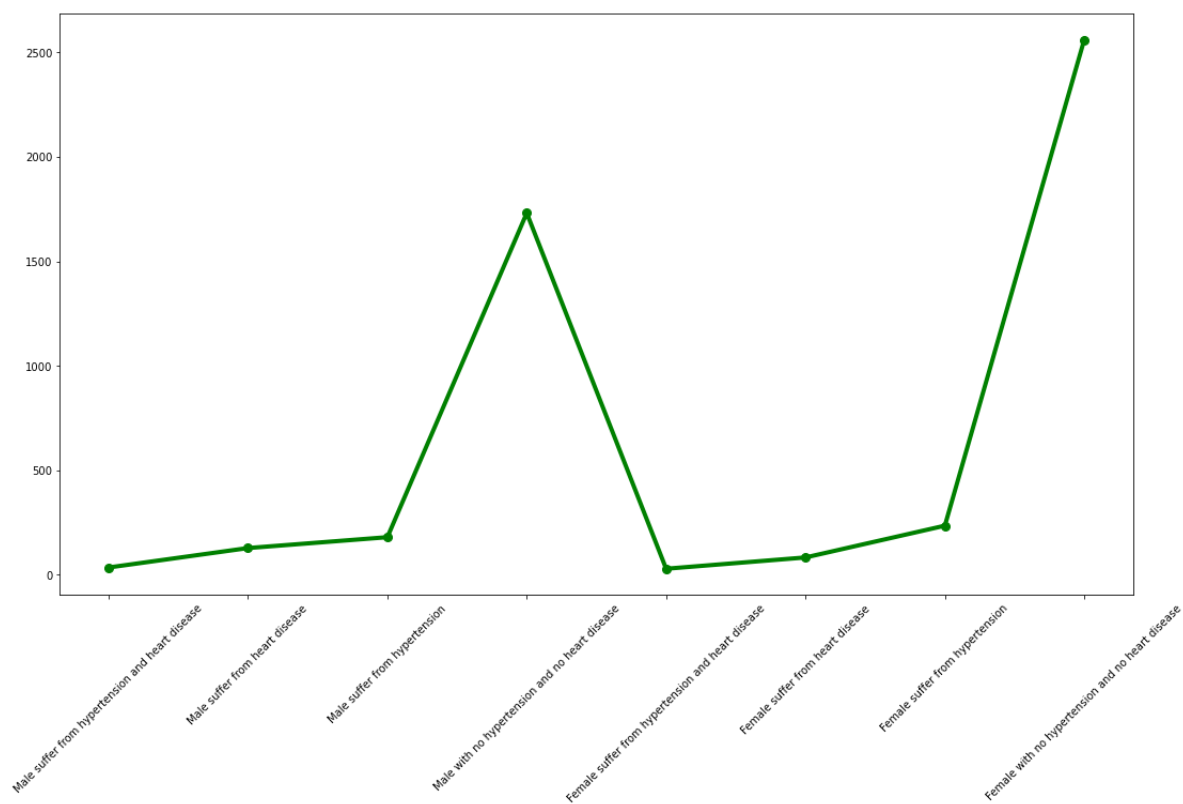
100 1232 8 734 119 1829 21 0



In [88]:

```
disease()
```

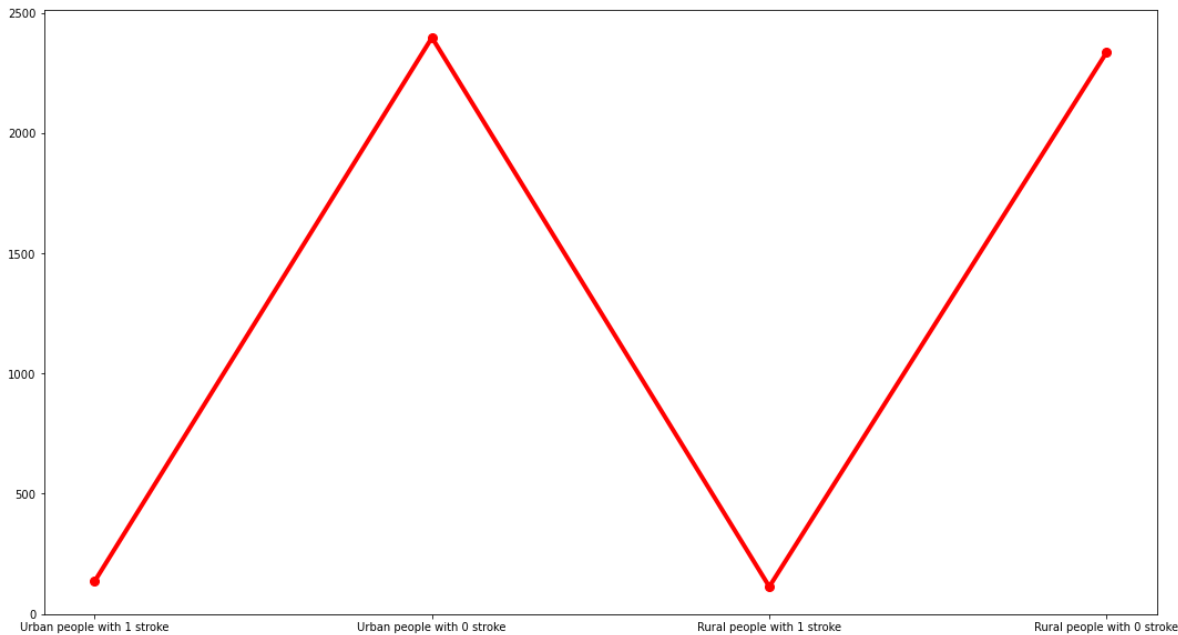
C:\Users\Vedan\AppData\Local\Temp\ipykernel_20644\2840583228.py:36: UserWarning: FixedFormatter should only be used together with FixedLocator
ax.set_xticklabels(name,rotation=45)



In [89]:

```
place()
```

135 113



In []: