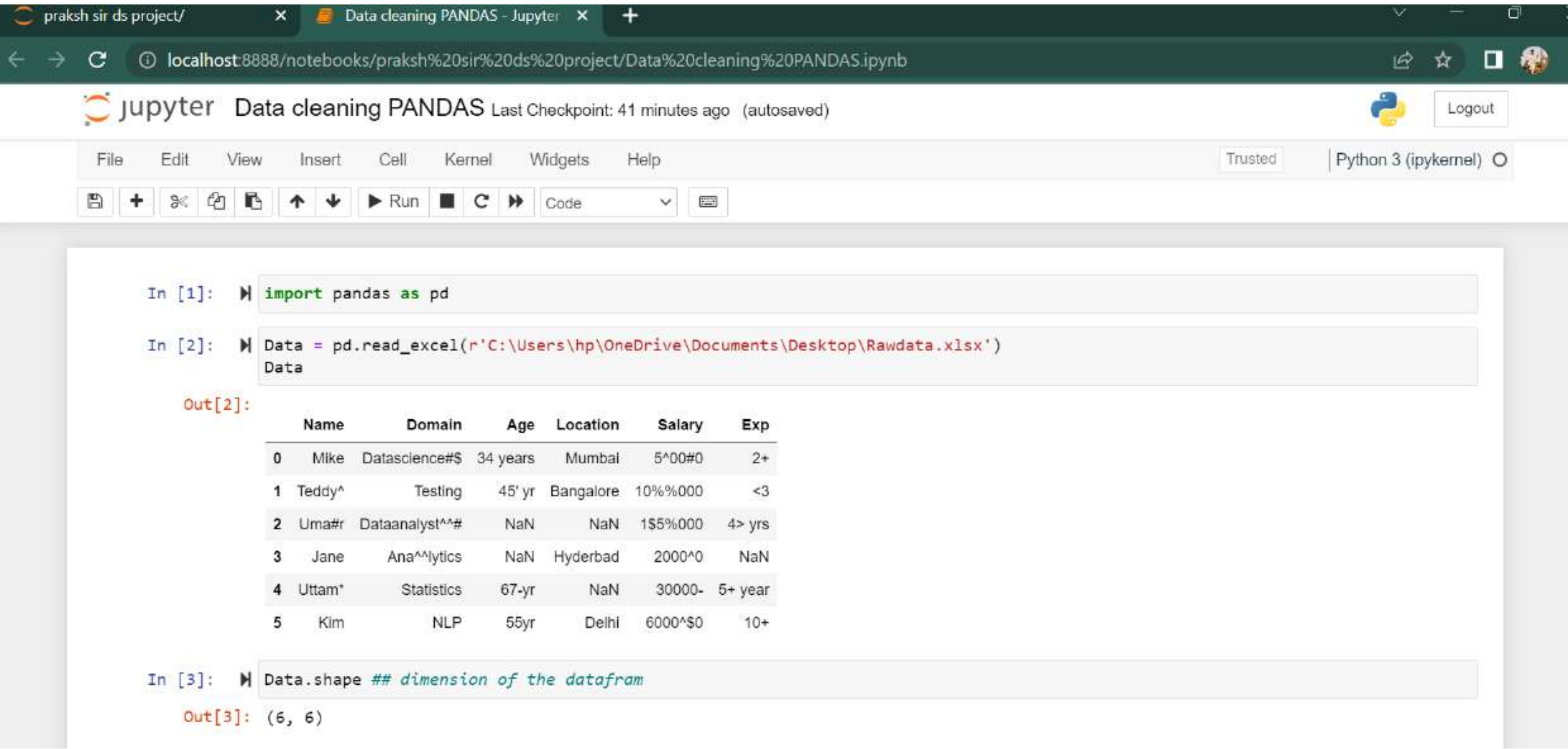


praksh sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter Data cleaning PANDAS Last Checkpoint: 41 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

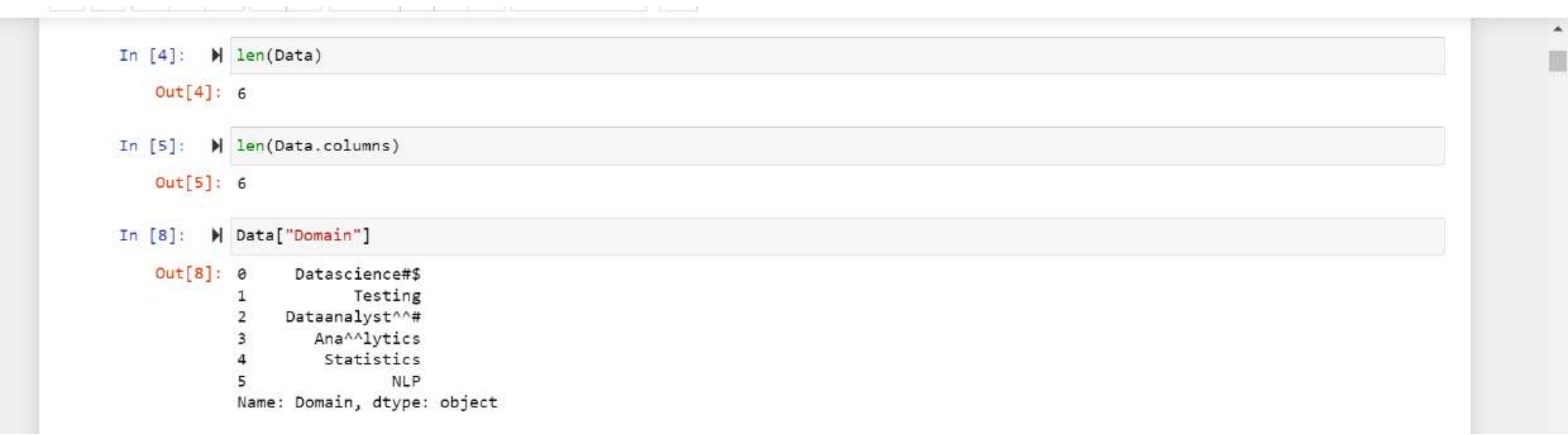
```
In [1]: import pandas as pd
```

```
In [2]: Data = pd.read_excel(r'C:\Users\hp\OneDrive\Documents\Desktop\Rawdata.xlsx')
        Data
```

Out[2]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience#$	34 years	Mumbai	5^00#0	2+
1	Teddy^	Testing	45' yr	Bangalore	10%%000	<3
2	Uma#r	Dataanalyst^^#	NaN	NaN	1$5%000	4> yrs
3	Jane	Ana^^lytics	NaN	Hyderbad	2000^0	NaN
4	Uttam*	Statistics	67-yr	NaN	30000-	5+ year
5	Kim	NLP	55yr	Delhi	6000^$0	10+

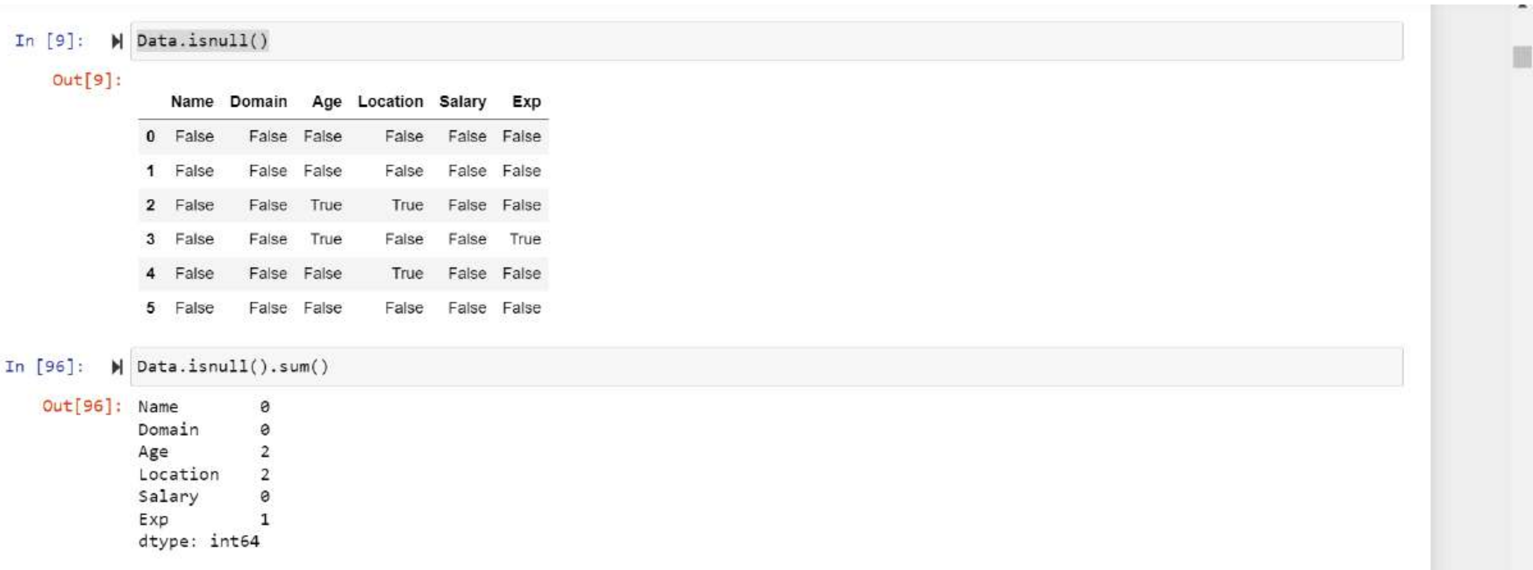
```
In [3]: Data.shape ## dimension of the datafram

Out[3]: (6, 6)
```



```
In [4]:  len(Data)
Out[4]:  6
```

```
In [5]:  len(Data.columns)
Out[5]:  6
```

```
In [8]:  Data["Domain"]
Out[8]:  0     Datascience#$
         1           Testing
         2    Dataanalyst^^#
         3       Ana^^lytics
         4        Statistics
         5               NLP
         Name: Domain, dtype: object
```



In [9]:

```
Data.isnull()
```

Out[9]:

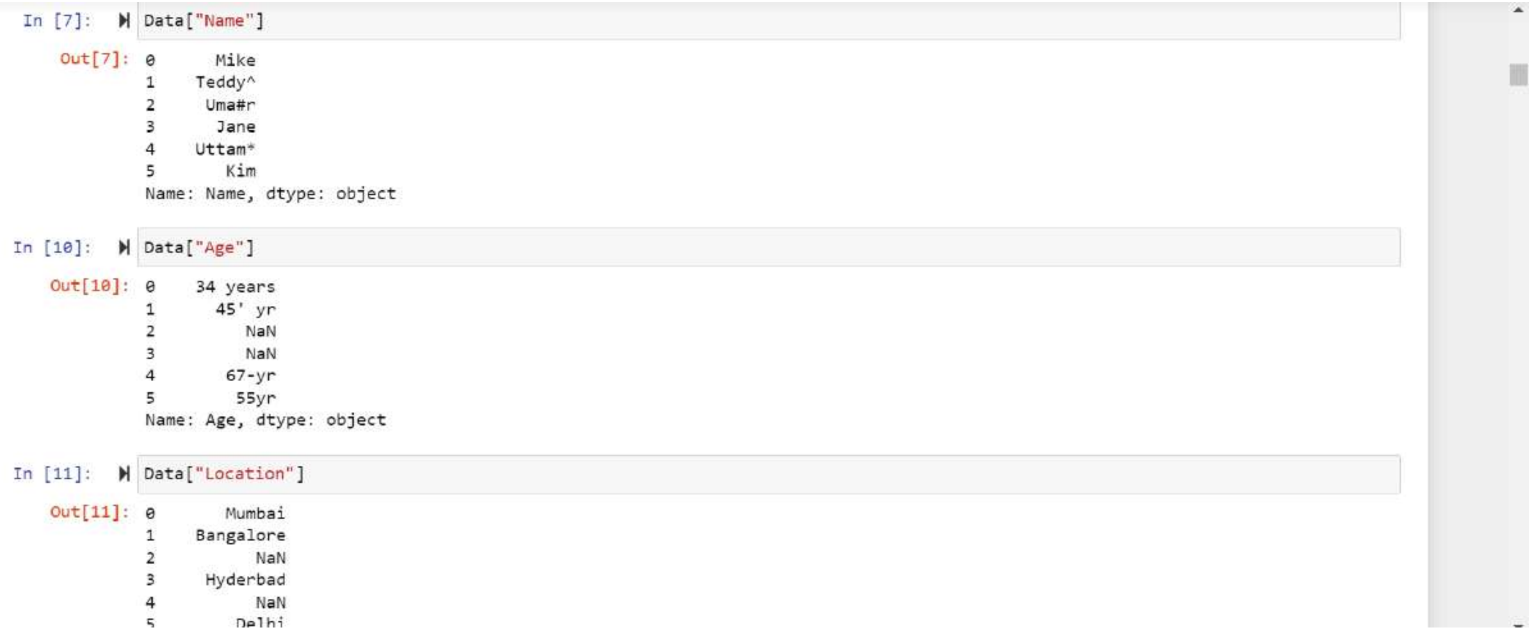
	Name	Domain	Age	Location	Salary	Exp
0	False	False	False	False	False	False
1	False	False	False	False	False	False
2	False	False	True	True	False	False
3	False	False	True	False	False	True
4	False	False	False	True	False	False
5	False	False	False	False	False	False

In [96]:

```
Data.isnull().sum()
```

Out[96]:

```
Name        0
Domain      0
Age         2
Location    2
Salary      0
Exp         1
dtype: int64
```



In [7]:
```
Data["Name"]
```

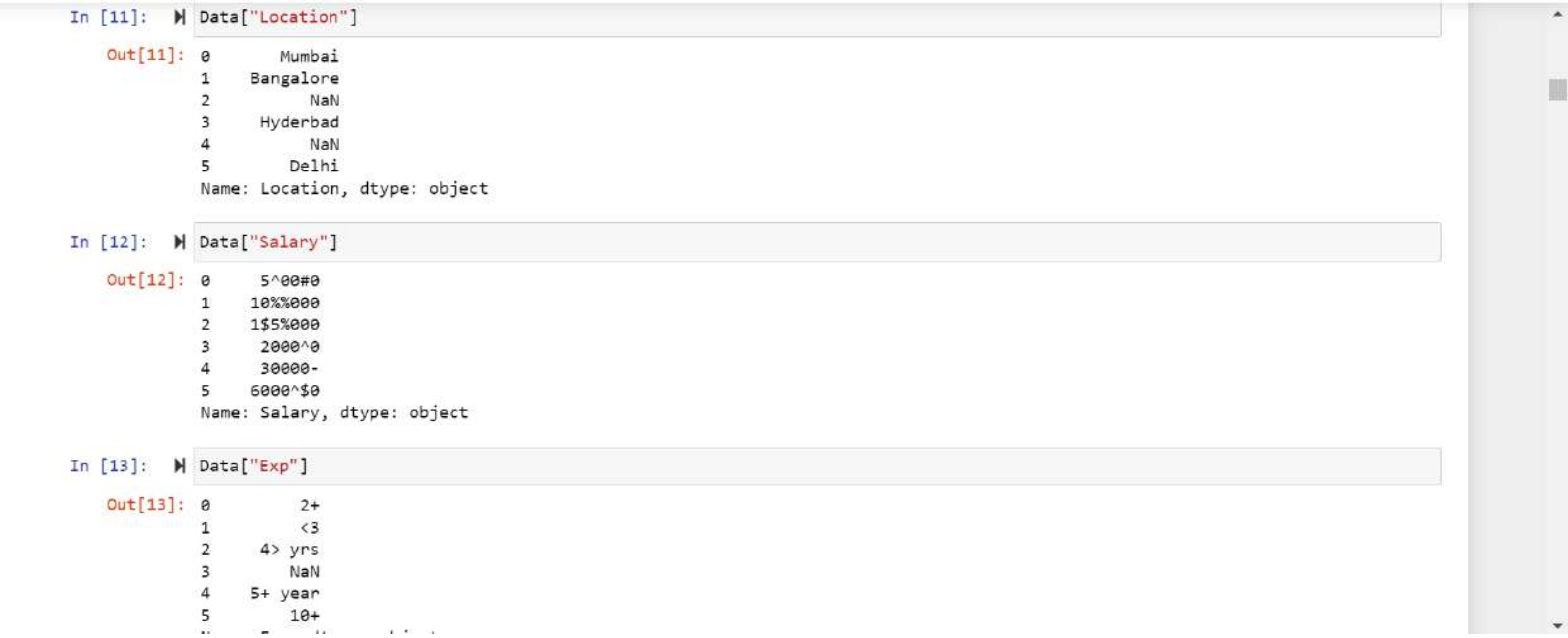
Out[7]:
```
0      Mike
1    Teddy^
2     Uma#r
3      Jane
4    Uttam*
5       Kim
Name: Name, dtype: object
```

In [10]:
```
Data["Age"]
```

Out[10]:
```
0    34 years
1      45' yr
2         NaN
3         NaN
4      67-yr
5       55yr
Name: Age, dtype: object
```

In [11]:
```
Data["Location"]
```

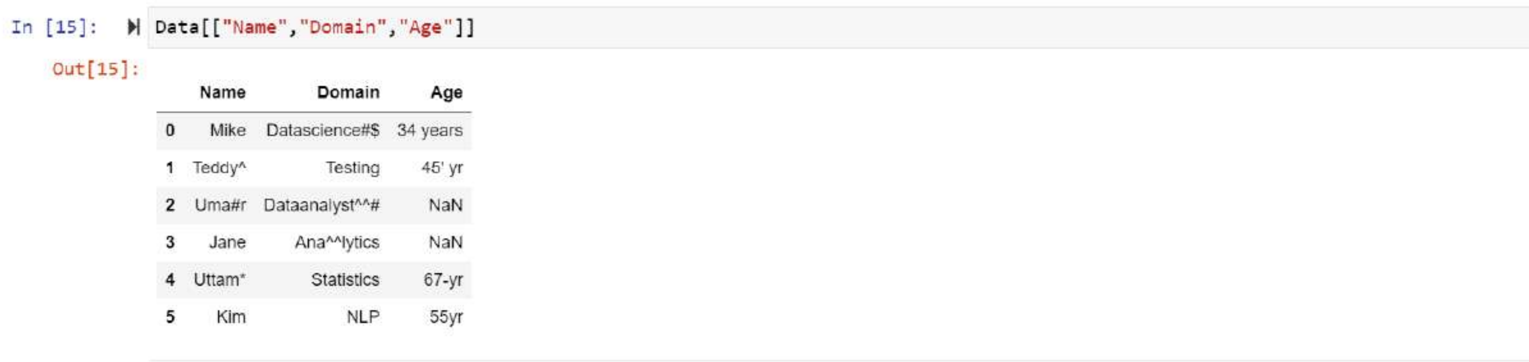
Out[11]:
```
0       Mumbai
1    Bangalore
2          NaN
3     Hyderbad
4          NaN
5        Delhi
```



```
In [11]:  Data["Location"]

Out[11]: 0       Mumbai
         1    Bangalore
         2          NaN
         3     Hyderbad
         4          NaN
         5        Delhi
         Name: Location, dtype: object
```

```
In [12]:  Data["Salary"]

Out[12]: 0      5^00#0
         1     10%%000
         2     1$5%000
         3      2000^0
         4      30000-
         5     6000^$0
         Name: Salary, dtype: object
```

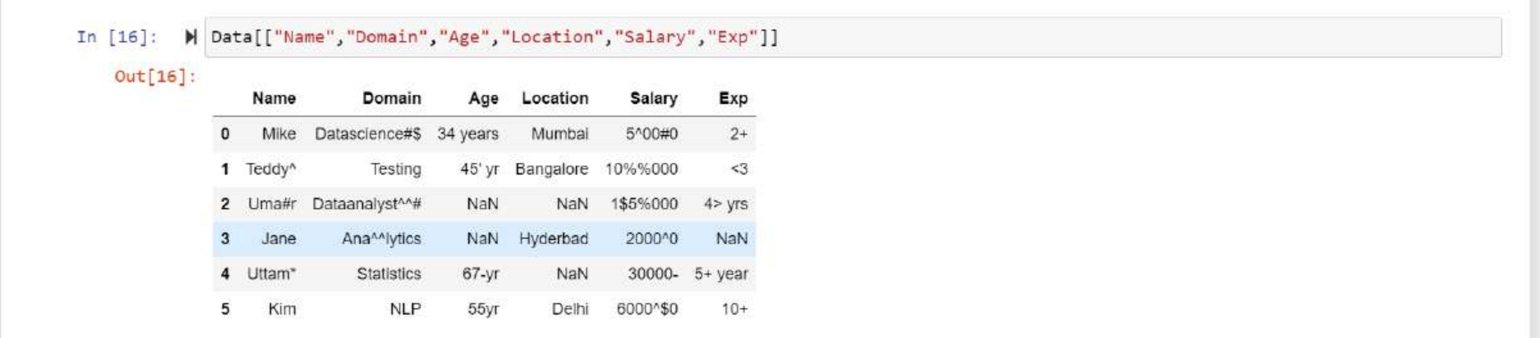
```
In [13]:  Data["Exp"]

Out[13]: 0         2+
         1         <3
         2     4> yrs
         3        NaN
         4    5+ year
         5        10+
```



```
In [15]:   Data[["Name","Domain","Age"]]
```

Out[15]:

	Name	Domain	Age
0	Mike	Datascience#$	34 years
1	Teddy^	Testing	45' yr
2	Uma#r	Dataanalyst^^#	NaN
3	Jane	Ana^^lytics	NaN
4	Uttam*	Statistics	67-yr
5	Kim	NLP	55yr

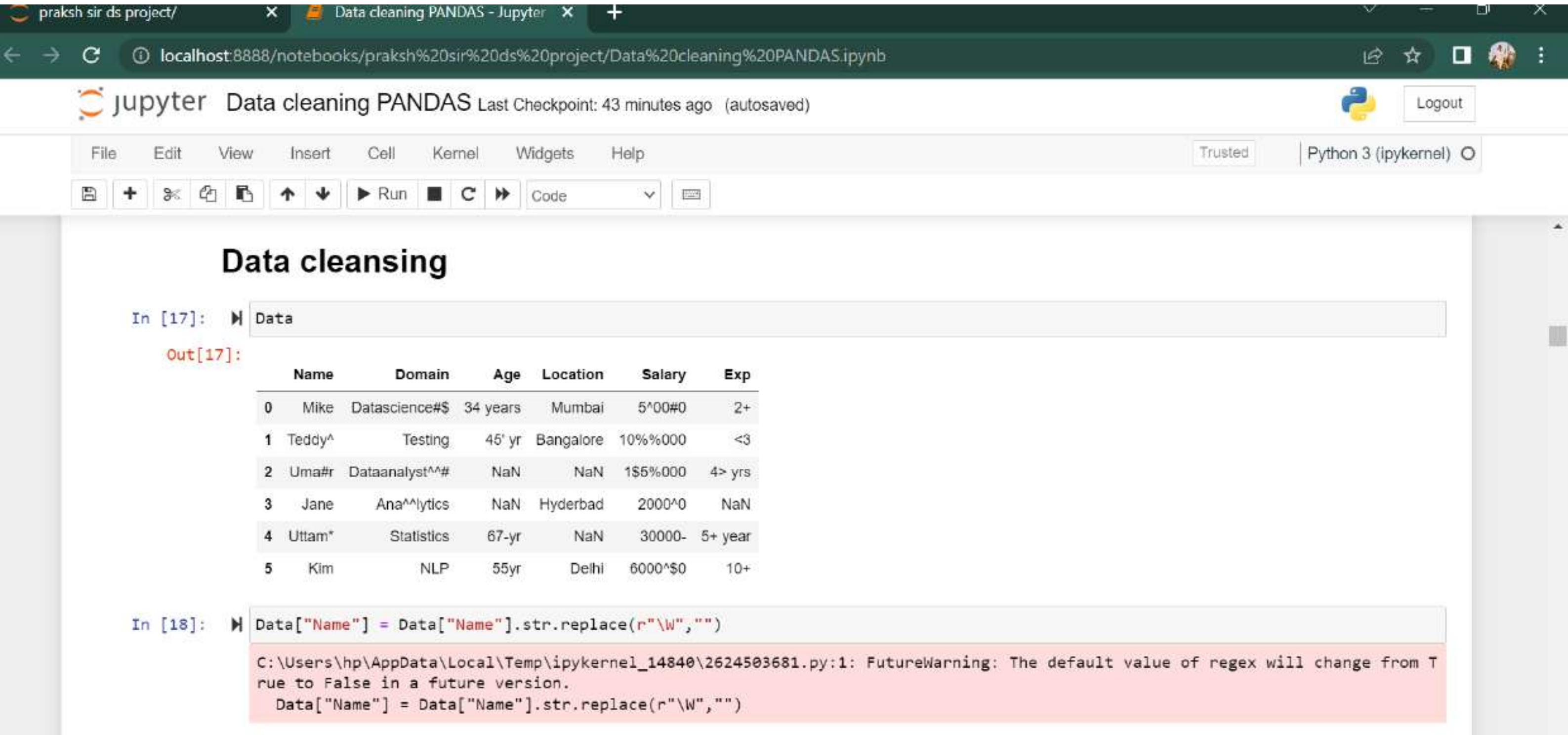


In [16]:

```python
Data[["Name","Domain","Age","Location","Salary","Exp"]]
```

Out[16]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience#$	34 years	Mumbai	5^00#0	2+
1	Teddy^	Testing	45' yr	Bangalore	10%%000	<3
2	Uma#r	Dataanalyst^^#	NaN	NaN	1$5%000	4> yrs
3	Jane	Ana^^lytics	NaN	Hyderbad	2000^0	NaN
4	Uttam*	Statistics	67-yr	NaN	30000-	5+ year
5	Kim	NLP	55yr	Delhi	6000^$0	10+



praksh sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter
Data cleaning PANDAS Last Checkpoint: 43 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

Data cleansing

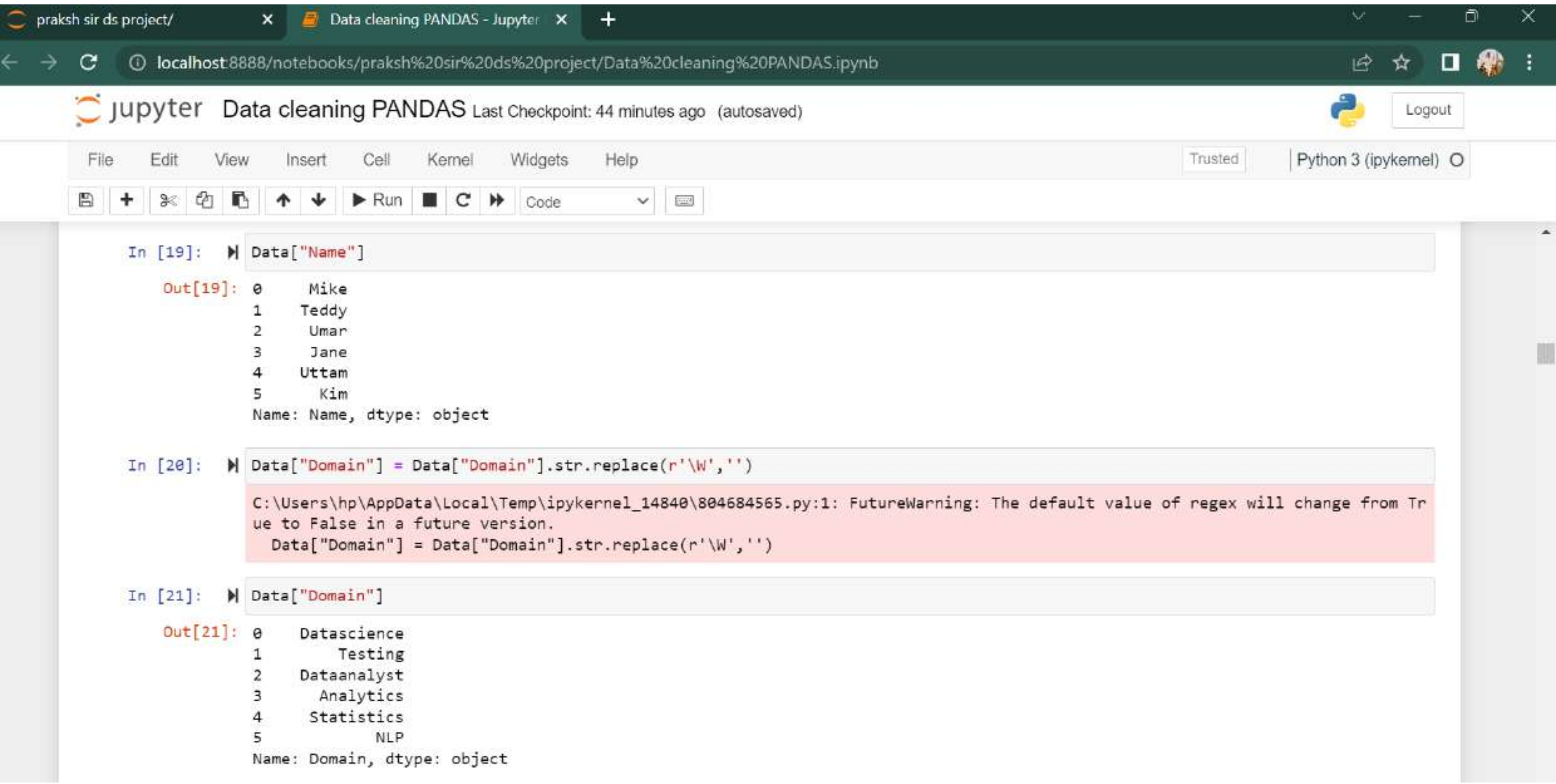
```
In [17]: Data
```

Out[17]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience#$	34 years	Mumbai	5^00#0	2+
1	Teddy^	Testing	45' yr	Bangalore	10%%000	<3
2	Uma#r	Dataanalyst^^#	NaN	NaN	1$5%000	4> yrs
3	Jane	Ana^^lytics	NaN	Hyderbad	2000^0	NaN
4	Uttam*	Statistics	67-yr	NaN	30000-	5+ year
5	Kim	NLP	55yr	Delhi	6000^$0	10+

```
In [18]: Data["Name"] = Data["Name"].str.replace(r"\W","")
```

```
C:\Users\hp\AppData\Local\Temp\ipykernel_14840\2624503681.py:1: FutureWarning: The default value of regex will change from T
rue to False in a future version.
  Data["Name"] = Data["Name"].str.replace(r"\W","")
```

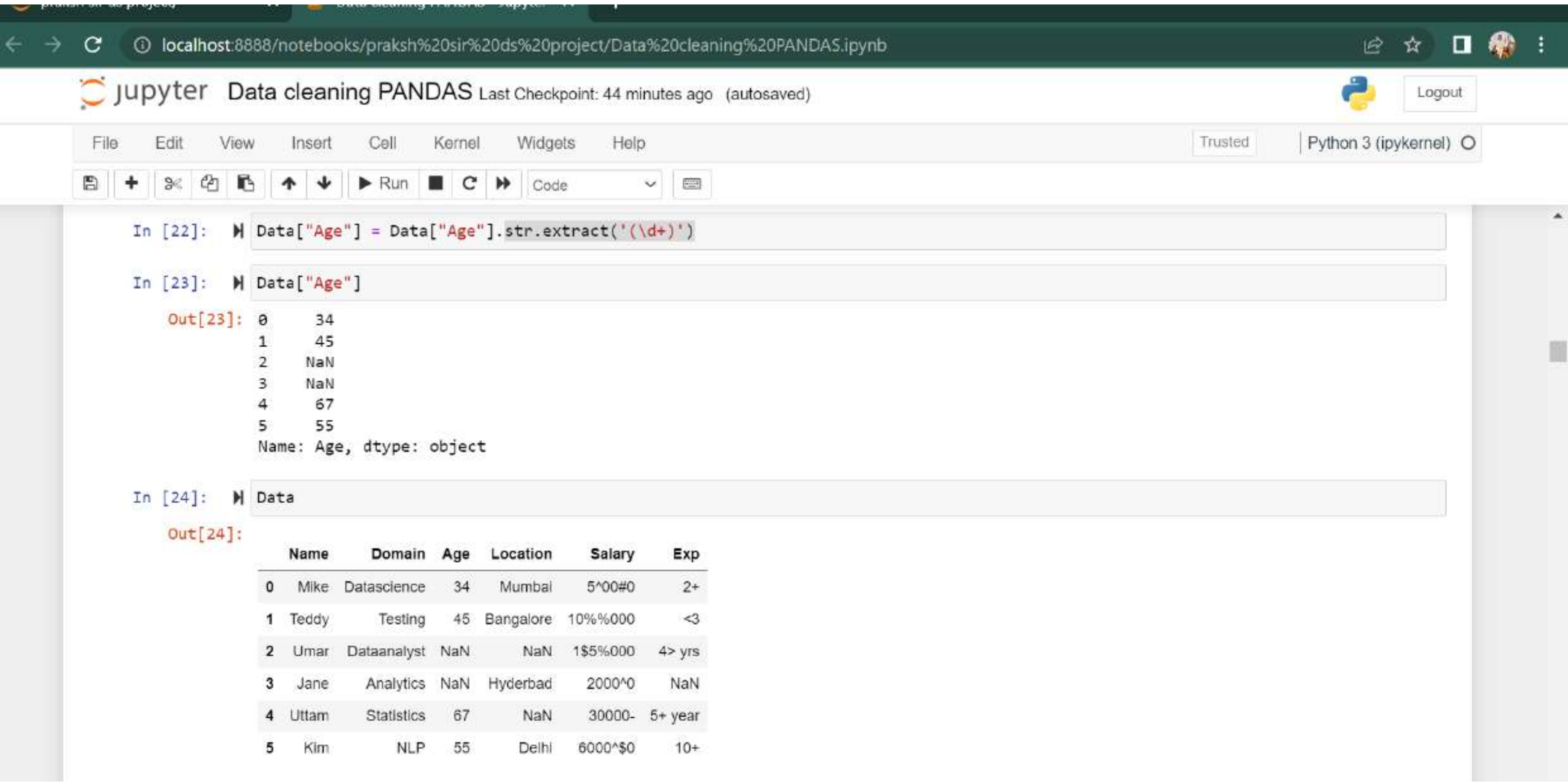


praksh sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter
Data cleaning PANDAS Last Checkpoint: 44 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [19]:  Data["Name"]

Out[19]:  0     Mike
          1    Teddy
          2     Umar
          3     Jane
          4    Uttam
          5      Kim
          Name: Name, dtype: object
```

```
In [20]:  Data["Domain"] = Data["Domain"].str.replace(r'\W','')

          C:\Users\hp\AppData\Local\Temp\ipykernel_14840\804684565.py:1: FutureWarning: The default value of regex will change from Tr
          ue to False in a future version.
            Data["Domain"] = Data["Domain"].str.replace(r'\W','')
```

```
In [21]:  Data["Domain"]

Out[21]:  0    Datascience
          1        Testing
          2    Dataanalyst
          3      Analytics
          4     Statistics
          5            NLP
          Name: Domain, dtype: object
```


localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter
Data cleaning PANDAS Last Checkpoint: 44 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [22]:  Data["Age"] = Data["Age"].str.extract('(\d+)')
```

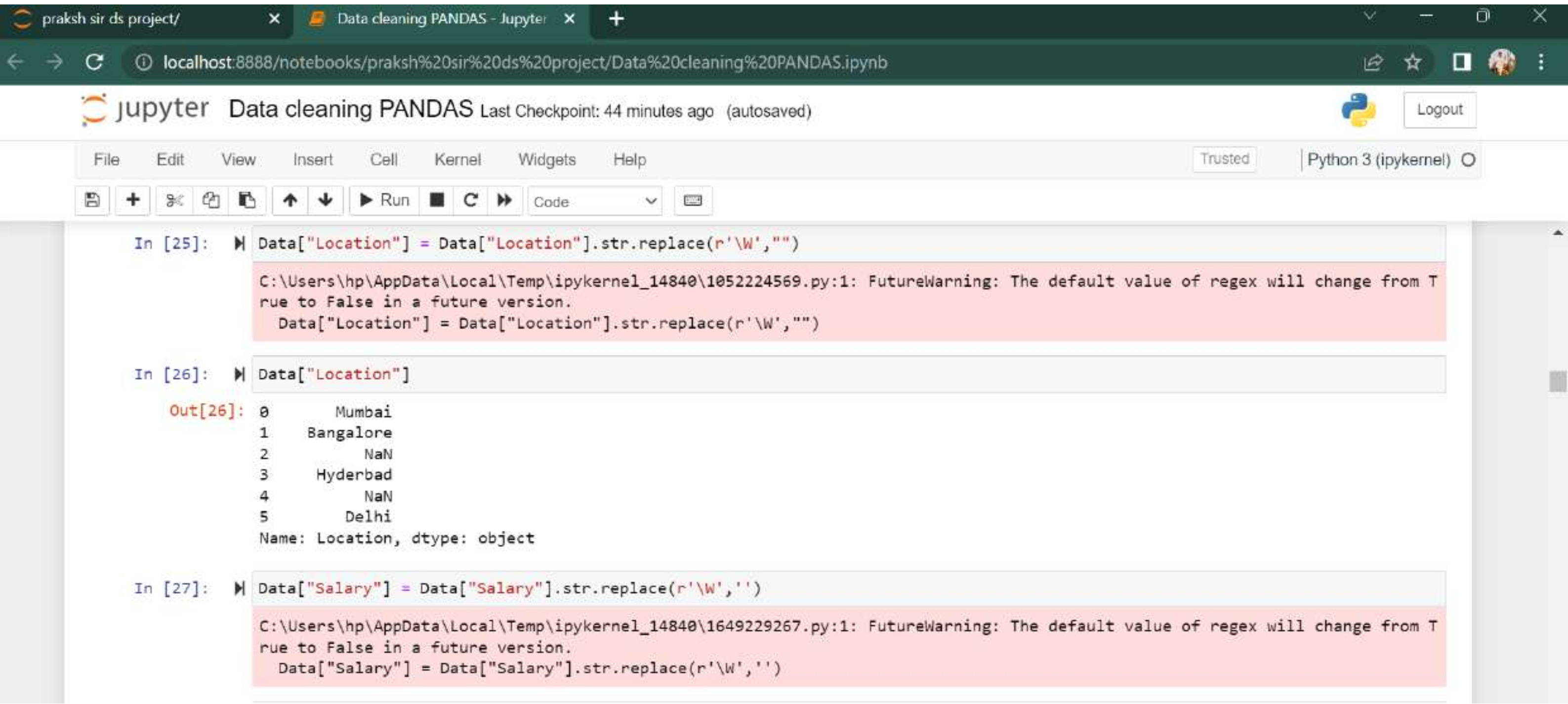
```
In [23]:  Data["Age"]
```

```
Out[23]: 0     34
         1     45
         2    NaN
         3    NaN
         4     67
         5     55
         Name: Age, dtype: object
```

```
In [24]:  Data
```

Out[24]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5^00#0	2+
1	Teddy	Testing	45	Bangalore	10%%000	<3
2	Umar	Dataanalyst	NaN	NaN	1$5%000	4> yrs
3	Jane	Analytics	NaN	Hyderbad	2000^0	NaN
4	Uttam	Statistics	67	NaN	30000-	5+ year
5	Kim	NLP	55	Delhi	6000^$0	10+


praksh sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter
Data cleaning PANDAS Last Checkpoint: 44 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [25]: Data["Location"] = Data["Location"].str.replace(r'\W',"")
```

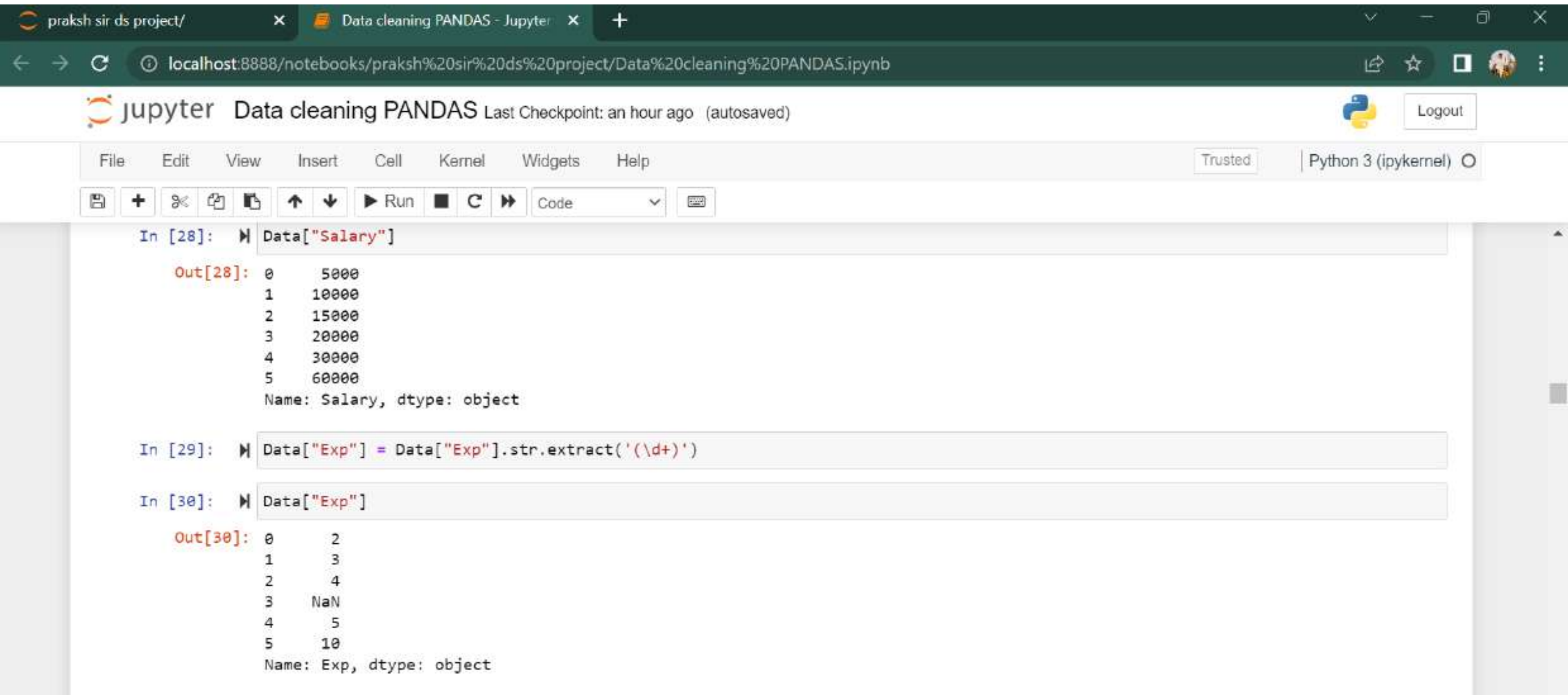
```
C:\Users\hp\AppData\Local\Temp\ipykernel_14840\1052224569.py:1: FutureWarning: The default value of regex will change from T
rue to False in a future version.
  Data["Location"] = Data["Location"].str.replace(r'\W',"")
```

```
In [26]: Data["Location"]
```

```
Out[26]: 0       Mumbai
         1    Bangalore
         2          NaN
         3     Hyderbad
         4          NaN
         5        Delhi
         Name: Location, dtype: object
```

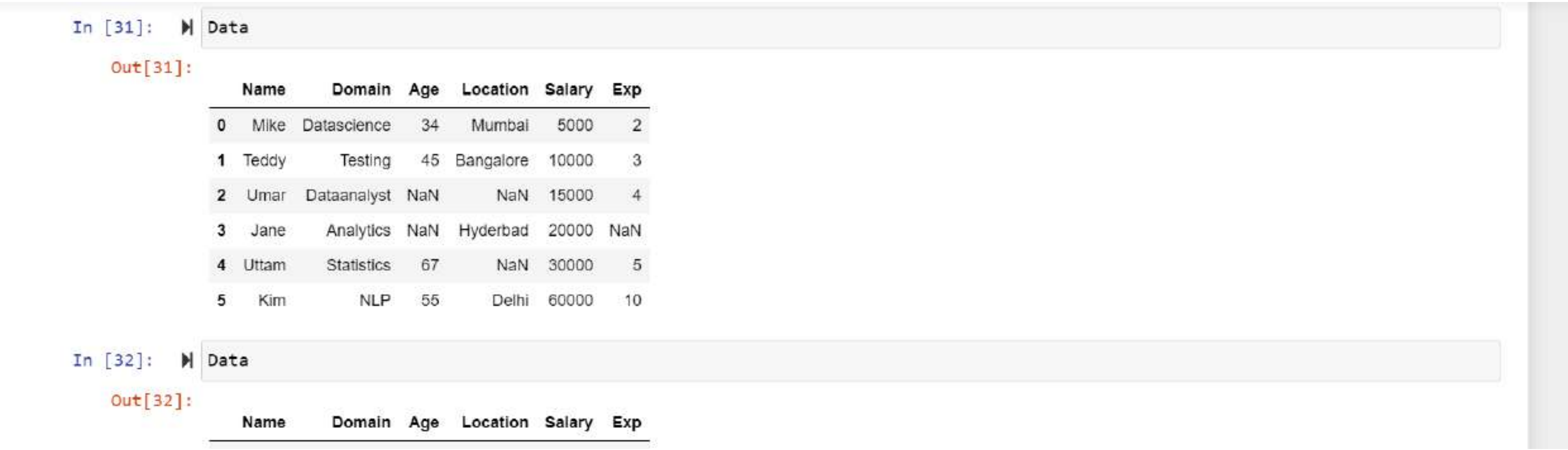
```
In [27]: Data["Salary"] = Data["Salary"].str.replace(r'\W','')
```

```
C:\Users\hp\AppData\Local\Temp\ipykernel_14840\1649229267.py:1: FutureWarning: The default value of regex will change from T
rue to False in a future version.
  Data["Salary"] = Data["Salary"].str.replace(r'\W','')
```


praksh sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
jupyter
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

Data cleaning PANDAS Last Checkpoint: an hour ago (autosaved)

```
In [28]:  Data["Salary"]

Out[28]: 0     5000
         1    10000
         2    15000
         3    20000
         4    30000
         5    60000
         Name: Salary, dtype: object

In [29]:  Data["Exp"] = Data["Exp"].str.extract('(\d+)')

In [30]:  Data["Exp"]

Out[30]: 0      2
         1      3
         2      4
         3    NaN
         4      5
         5     10
         Name: Exp, dtype: object
```



```
In [31]:  Data
```

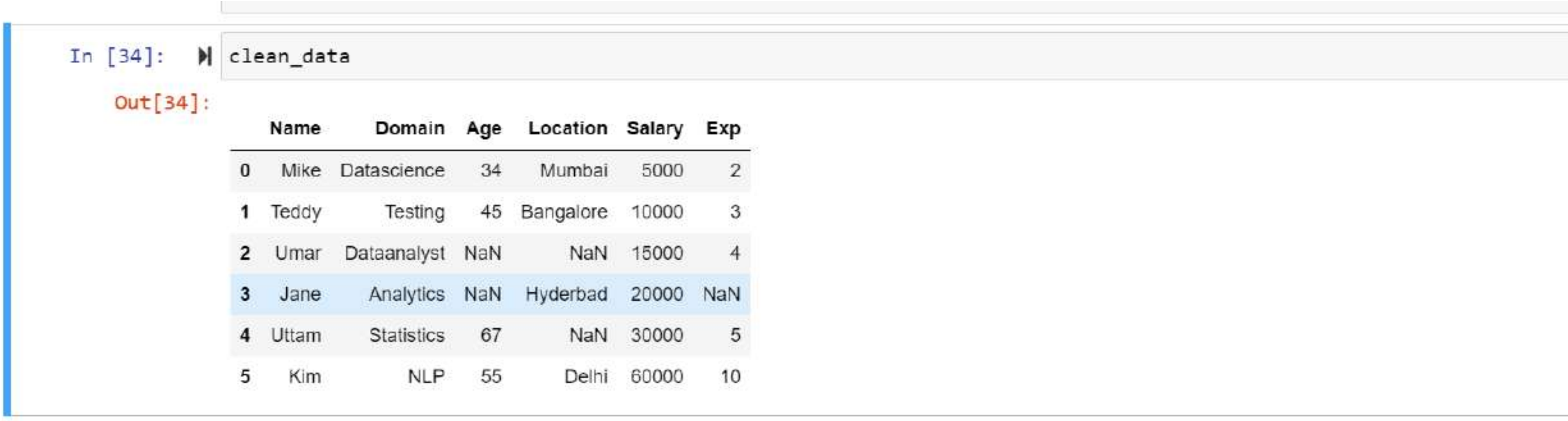
Out[31]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	NaN	NaN	15000	4
3	Jane	Analytics	NaN	Hyderbad	20000	NaN
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10

```
In [32]:  Data
```

Out[32]:

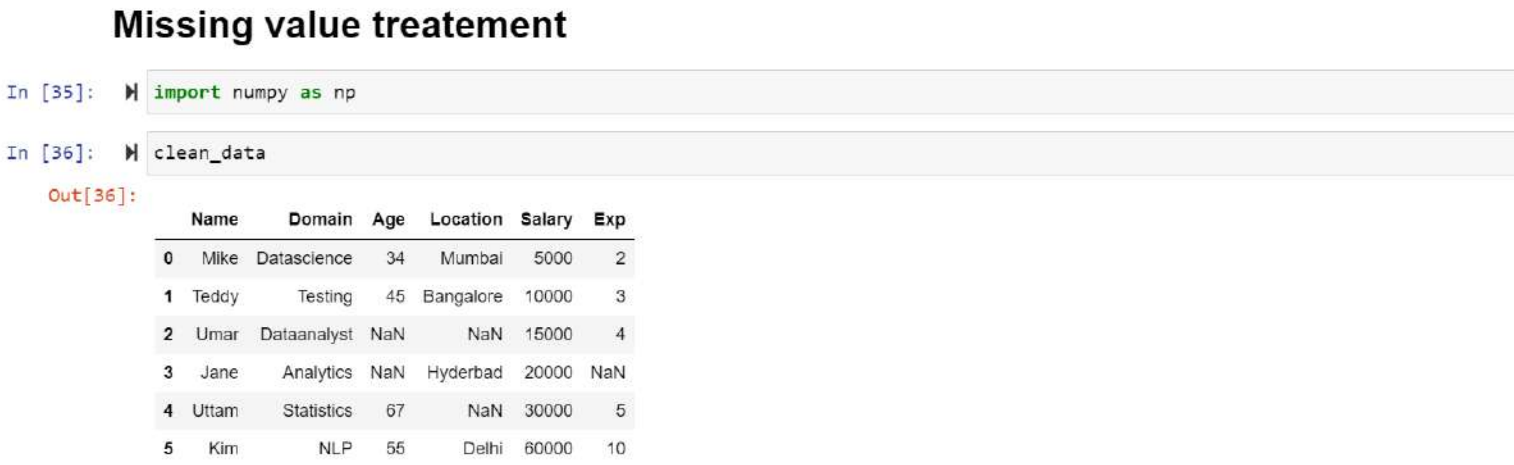
	Name	Domain	Age	Location	Salary	Exp



```
In [34]:  clean_data
```

Out[34]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	NaN	NaN	15000	4
3	Jane	Analytics	NaN	Hyderbad	20000	NaN
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10



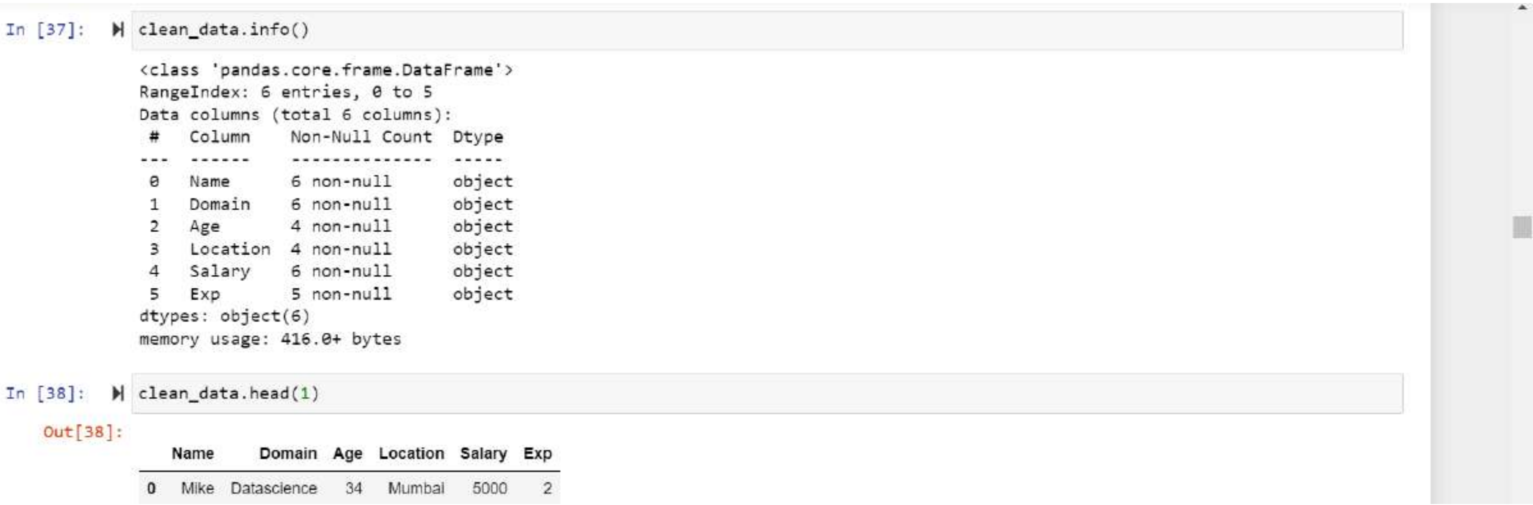
Missing value treatement

In [35]:
```
import numpy as np
```

In [36]:
```
clean_data
```

Out[36]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	NaN	NaN	15000	4
3	Jane	Analytics	NaN	Hyderbad	20000	NaN
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10



In [37]:

```
clean_data.info()
```

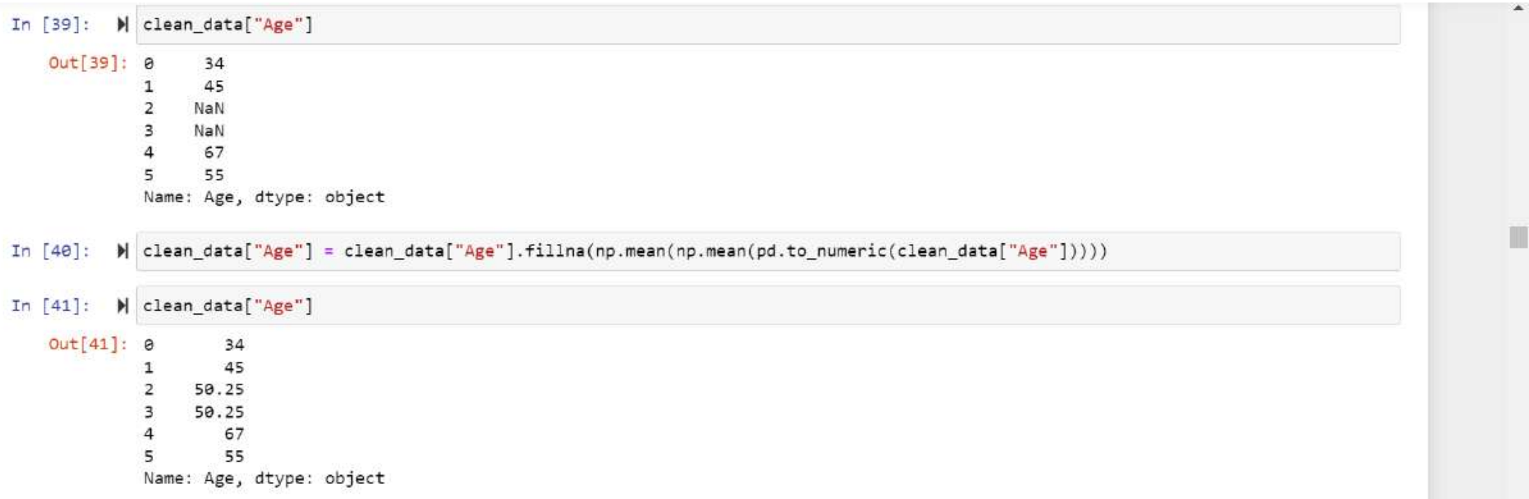
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6 entries, 0 to 5
Data columns (total 6 columns):
 #   Column    Non-Null Count  Dtype 
---  ------    --------------  ----- 
 0   Name      6 non-null      object
 1   Domain    6 non-null      object
 2   Age       4 non-null      object
 3   Location  4 non-null      object
 4   Salary    6 non-null      object
 5   Exp       5 non-null      object
dtypes: object(6)
memory usage: 416.0+ bytes
```

In [38]:

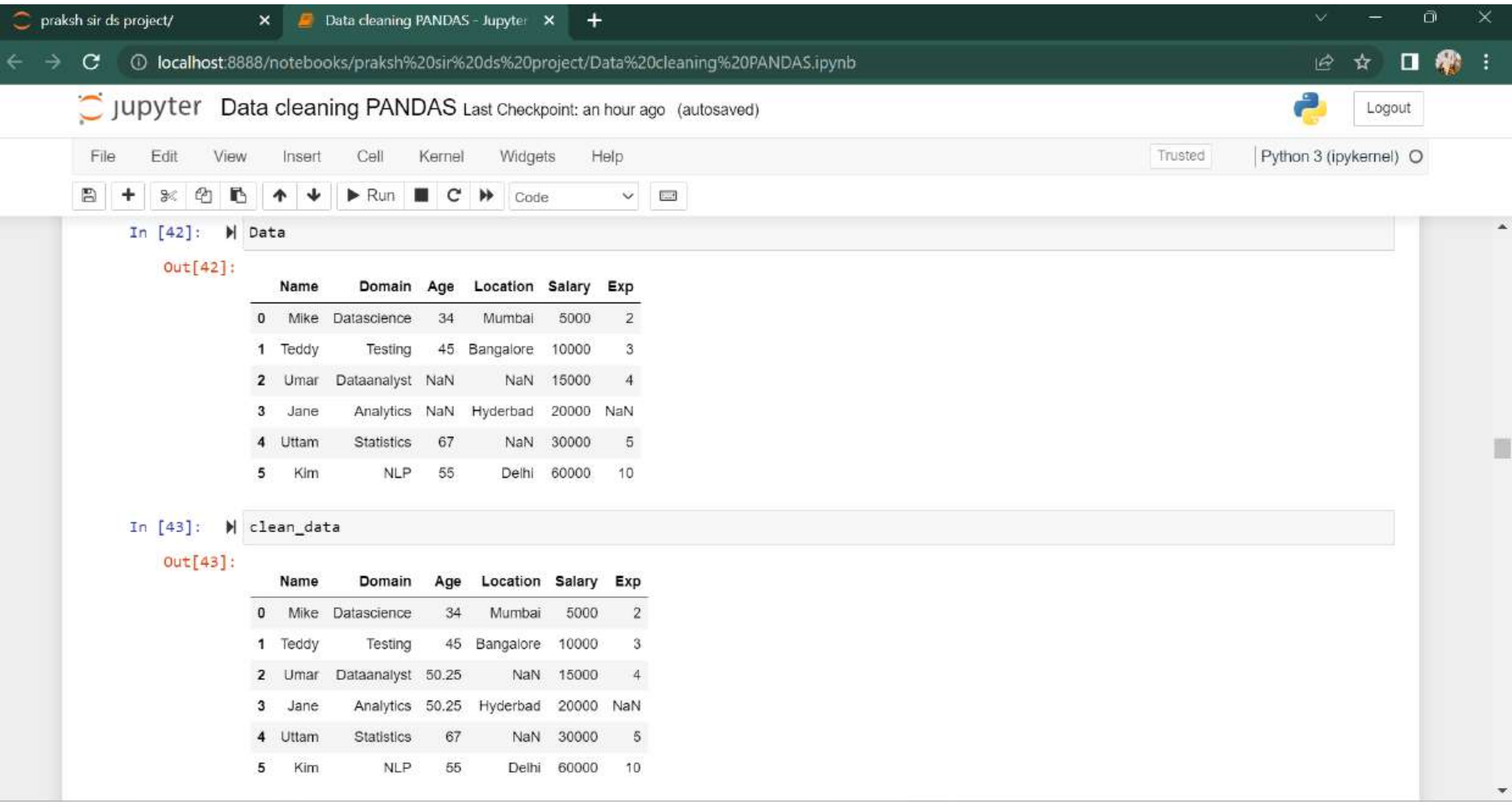
```
clean_data.head(1)
```

Out[38]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2



```
In [39]:  clean_data["Age"]

Out[39]: 0     34
         1     45
         2    NaN
         3    NaN
         4     67
         5     55
         Name: Age, dtype: object

In [40]:  clean_data["Age"] = clean_data["Age"].fillna(np.mean(np.mean(pd.to_numeric(clean_data["Age"]))))

In [41]:  clean_data["Age"]

Out[41]: 0       34
         1       45
         2    50.25
         3    50.25
         4       67
         5       55
         Name: Age, dtype: object
```


prakash sir ds project/
Data cleaning PANDAS - Jupyter
localhost:8888/notebooks/praksh%20sir%20ds%20project/Data%20cleaning%20PANDAS.ipynb
Jupyter
Data cleaning PANDAS Last Checkpoint: an hour ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [42]: Data
```

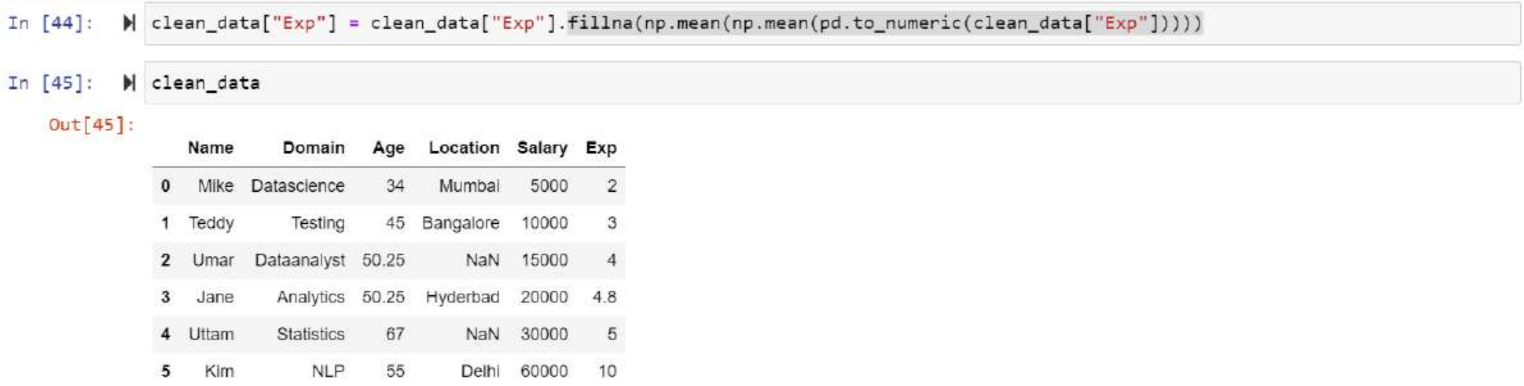
Out[42]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	NaN	NaN	15000	4
3	Jane	Analytics	NaN	Hyderbad	20000	NaN
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10

```
In [43]: clean_data
```

Out[43]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50.25	NaN	15000	4
3	Jane	Analytics	50.25	Hyderbad	20000	NaN
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10

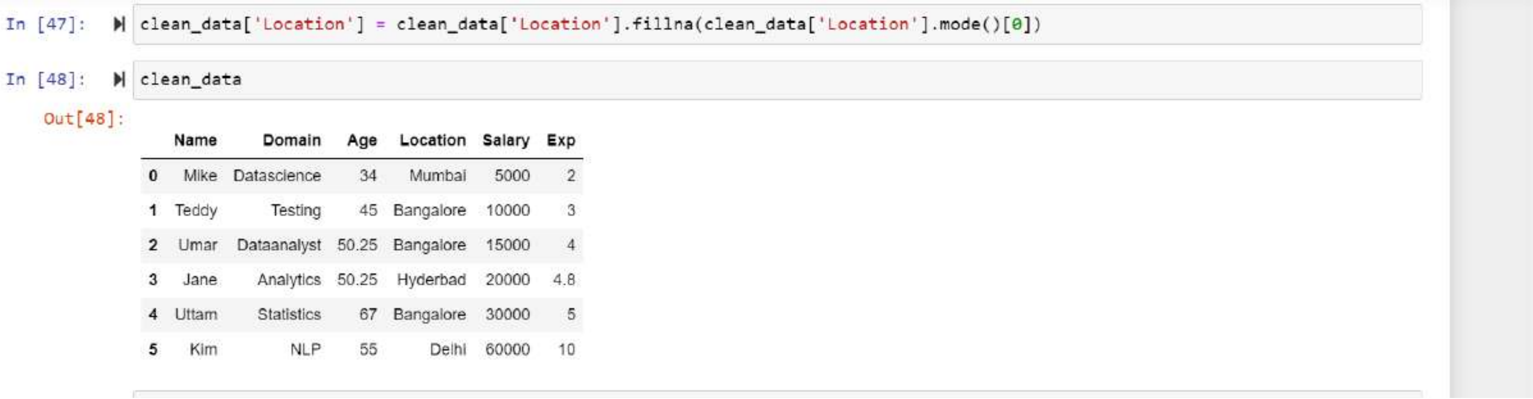


In [44]:
```
clean_data["Exp"] = clean_data["Exp"].fillna(np.mean(np.mean(pd.to_numeric(clean_data["Exp"]))))
```

In [45]:
```
clean_data
```

Out[45]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50.25	NaN	15000	4
3	Jane	Analytics	50.25	Hyderbad	20000	4.8
4	Uttam	Statistics	67	NaN	30000	5
5	Kim	NLP	55	Delhi	60000	10

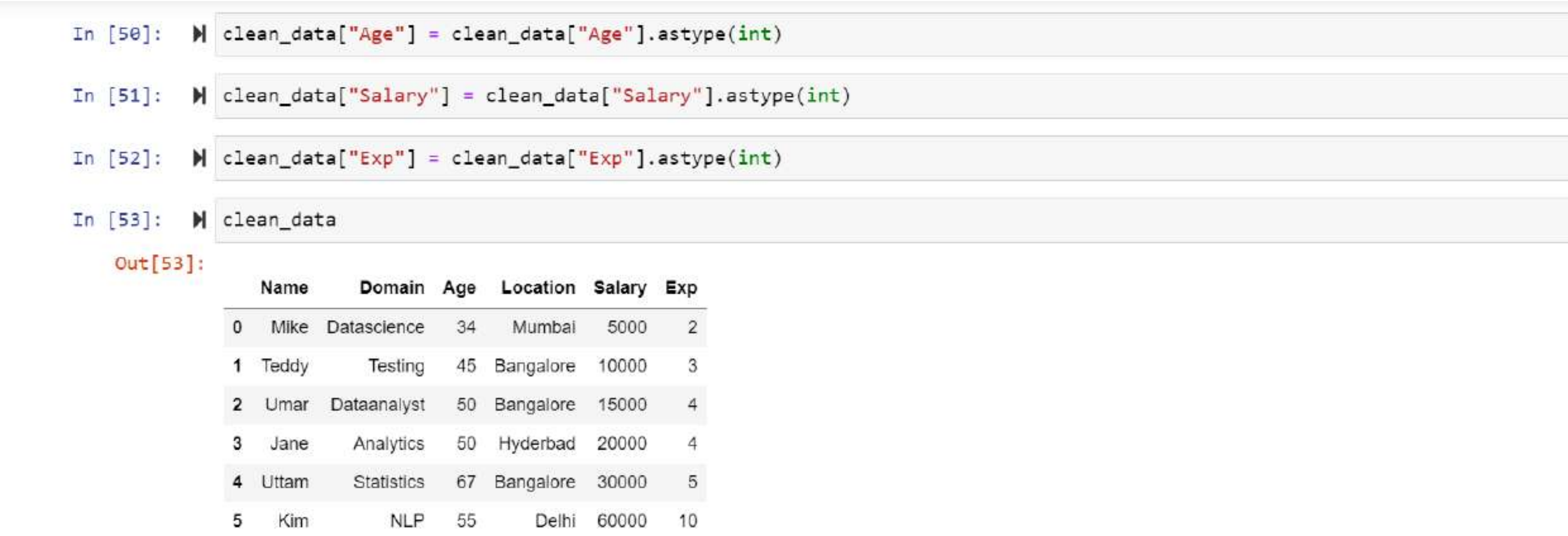


In [47]:
```
clean_data['Location'] = clean_data['Location'].fillna(clean_data['Location'].mode()[0])
```

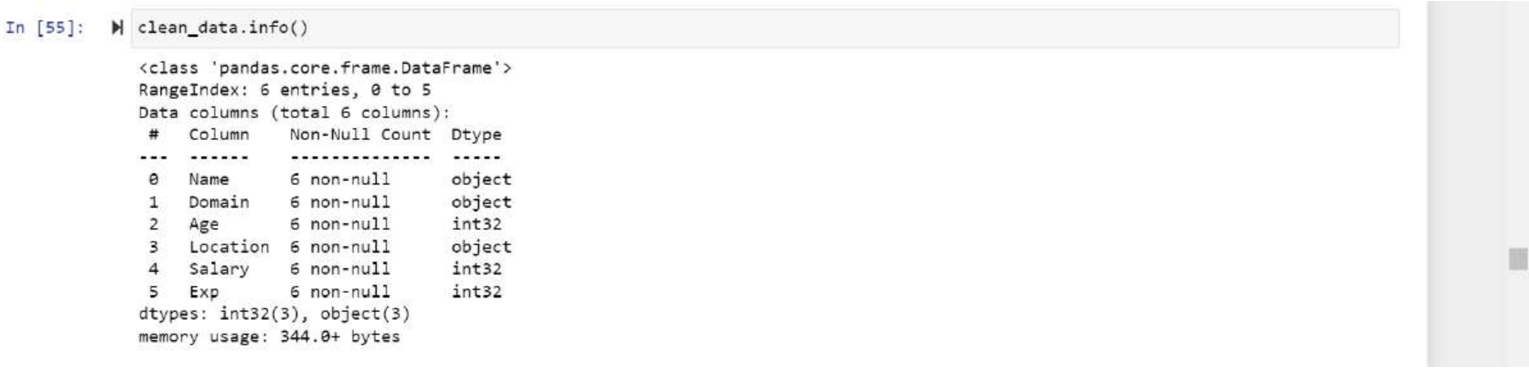
In [48]:
```
clean_data
```

Out[48]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50.25	Bangalore	15000	4
3	Jane	Analytics	50.25	Hyderbad	20000	4.8
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10



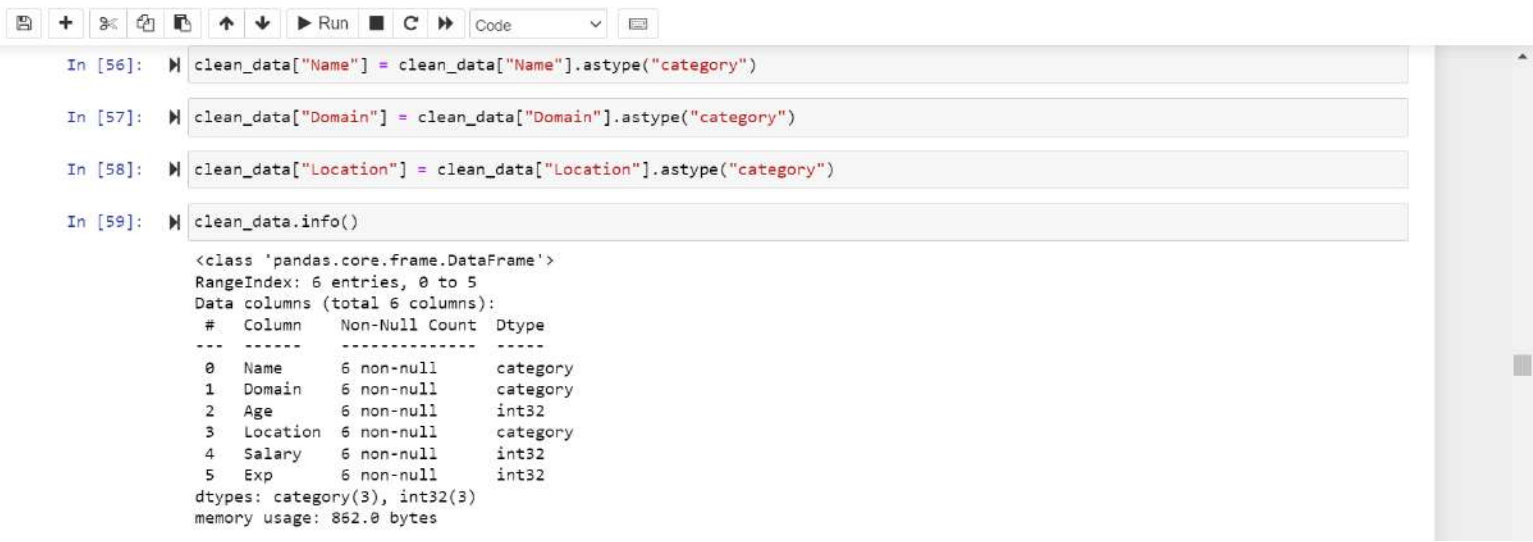
```
In [50]:  clean_data["Age"] = clean_data["Age"].astype(int)

In [51]:  clean_data["Salary"] = clean_data["Salary"].astype(int)

In [52]:  clean_data["Exp"] = clean_data["Exp"].astype(int)

In [53]:  clean_data

Out[53]:
      Name       Domain  Age   Location  Salary  Exp
   0  Mike  Datascience   34     Mumbai    5000    2
   1  Teddy      Testing   45  Bangalore   10000    3
   2  Umar  Dataanalyst   50  Bangalore   15000    4
   3  Jane    Analytics   50   Hyderbad   20000    4
   4  Uttam   Statistics   67  Bangalore   30000    5
   5   Kim          NLP   55      Delhi   60000   10
```



In [55]:

```
clean_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6 entries, 0 to 5
Data columns (total 6 columns):
 #   Column    Non-Null Count  Dtype 
---  ------    --------------  ----- 
 0   Name      6 non-null      object
 1   Domain    6 non-null      object
 2   Age       6 non-null      int32 
 3   Location  6 non-null      object
 4   Salary    6 non-null      int32 
 5   Exp       6 non-null      int32 
dtypes: int32(3), object(3)
memory usage: 344.0+ bytes
```



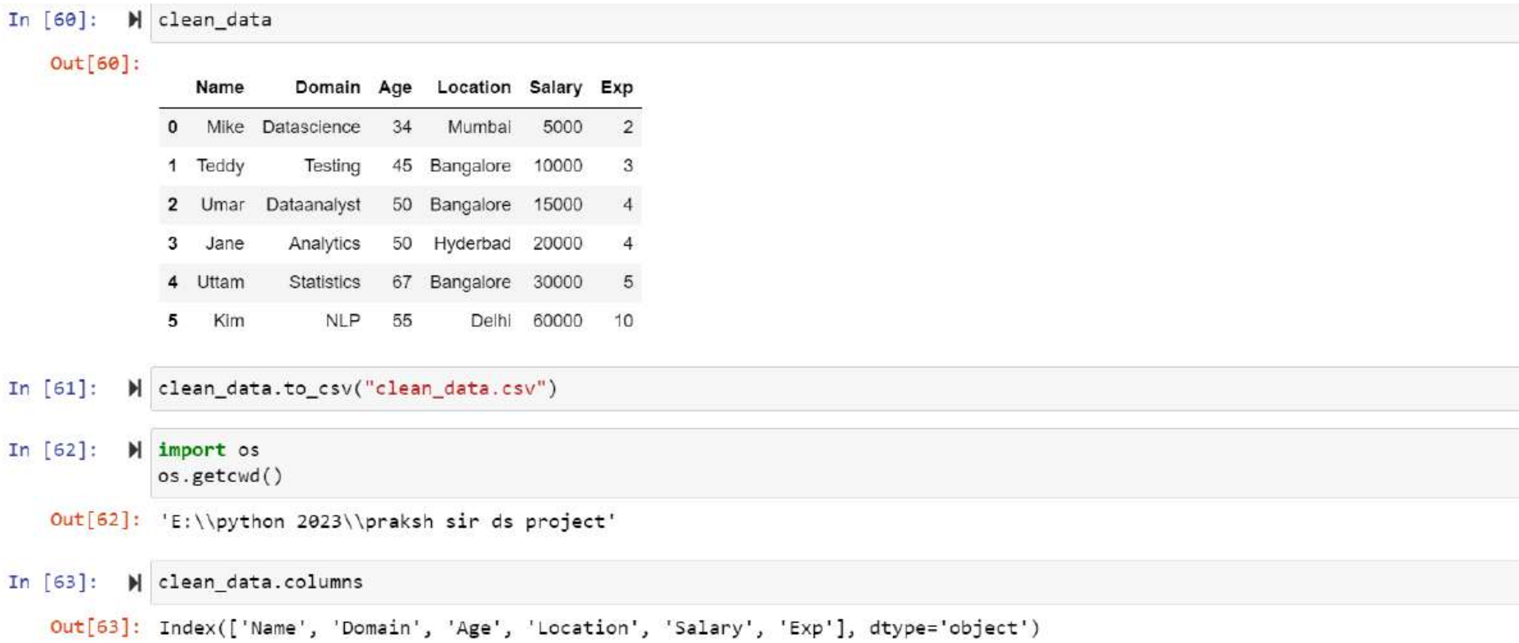
In [56]:
```
clean_data["Name"] = clean_data["Name"].astype("category")
```

In [57]:
```
clean_data["Domain"] = clean_data["Domain"].astype("category")
```

In [58]:
```
clean_data["Location"] = clean_data["Location"].astype("category")
```

In [59]:
```
clean_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6 entries, 0 to 5
Data columns (total 6 columns):
 #   Column    Non-Null Count  Dtype
---  ------    --------------  -----
 0   Name      6 non-null      category
 1   Domain    6 non-null      category
 2   Age       6 non-null      int32
 3   Location  6 non-null      category
 4   Salary    6 non-null      int32
 5   Exp       6 non-null      int32
dtypes: category(3), int32(3)
memory usage: 862.0 bytes
```



In [60]:
```
clean_data
```

Out[60]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50	Bangalore	15000	4
3	Jane	Analytics	50	Hyderbad	20000	4
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10

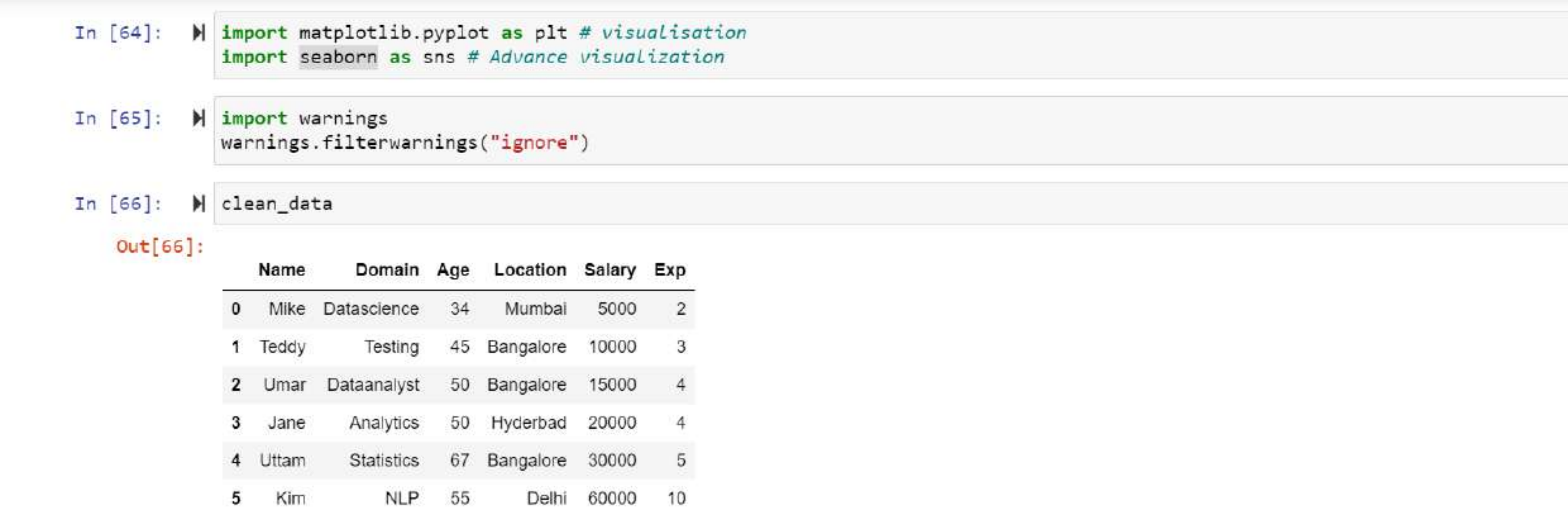
In [61]:
```
clean_data.to_csv("clean_data.csv")
```

In [62]:
```
import os
os.getcwd()
```

Out[62]:
```
'E:\\python 2023\\praksh sir ds project'
```

In [63]:
```
clean_data.columns
```

Out[63]:
```
Index(['Name', 'Domain', 'Age', 'Location', 'Salary', 'Exp'], dtype='object')
```



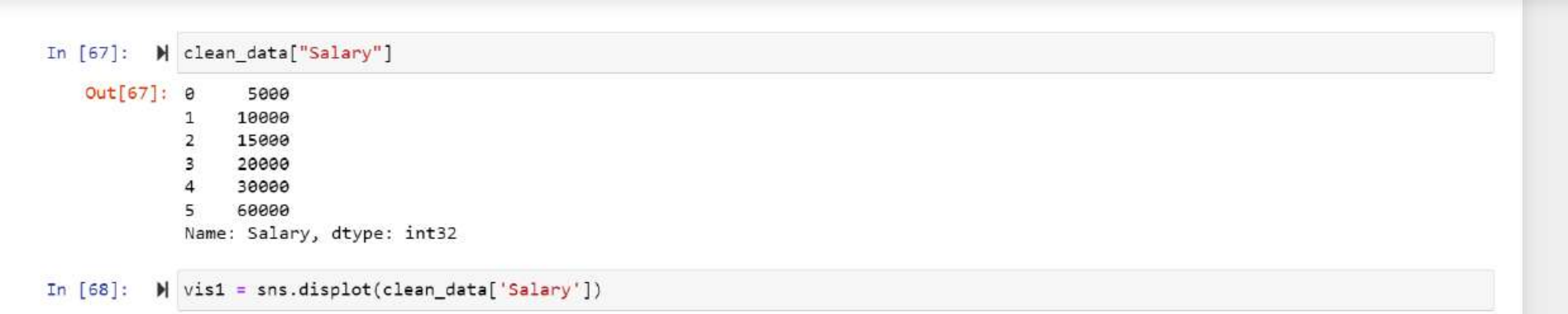
```
In [64]:  import matplotlib.pyplot as plt # visualisation
          import seaborn as sns # Advance visualization
```

```
In [65]:  import warnings
          warnings.filterwarnings("ignore")
```

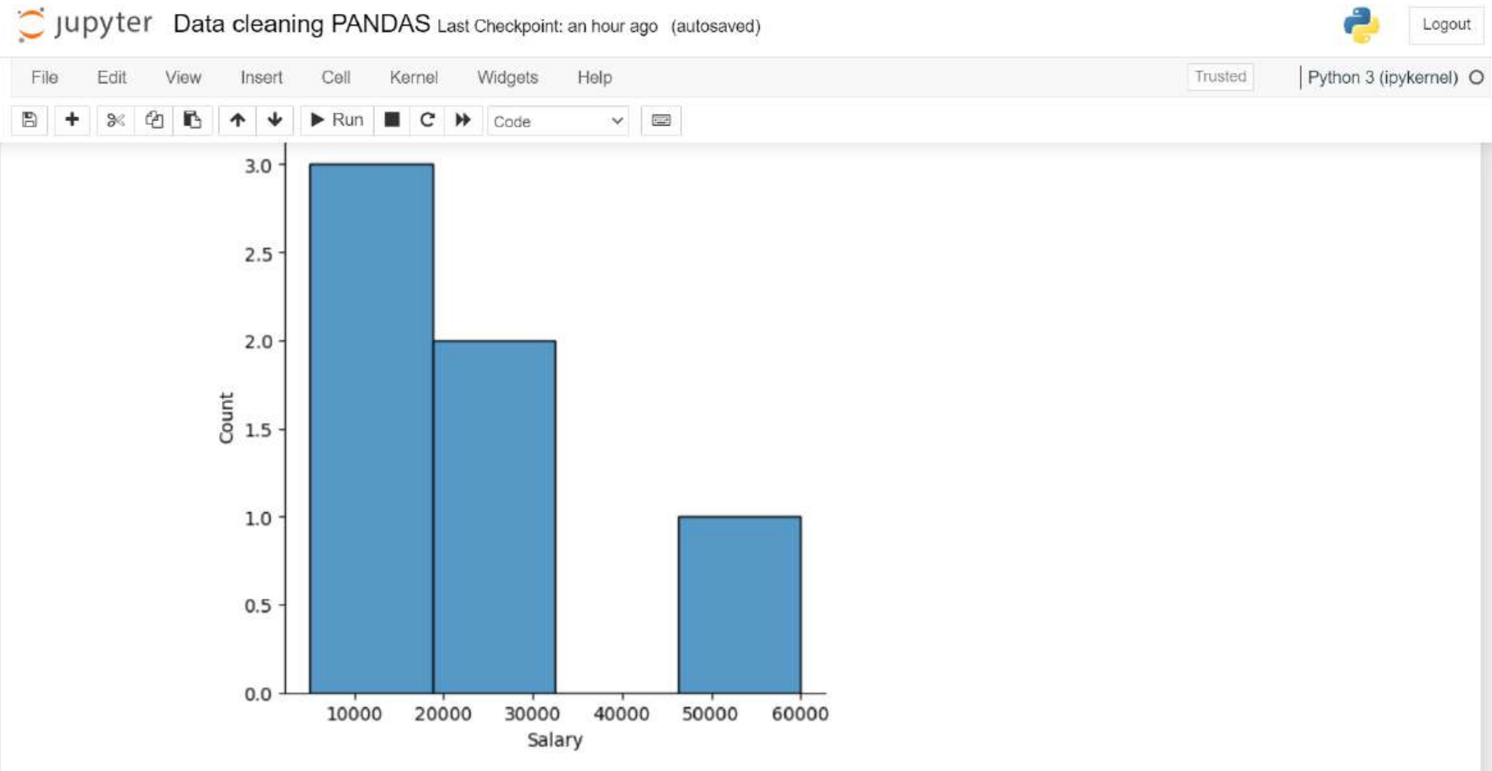
```
In [66]:  clean_data
```

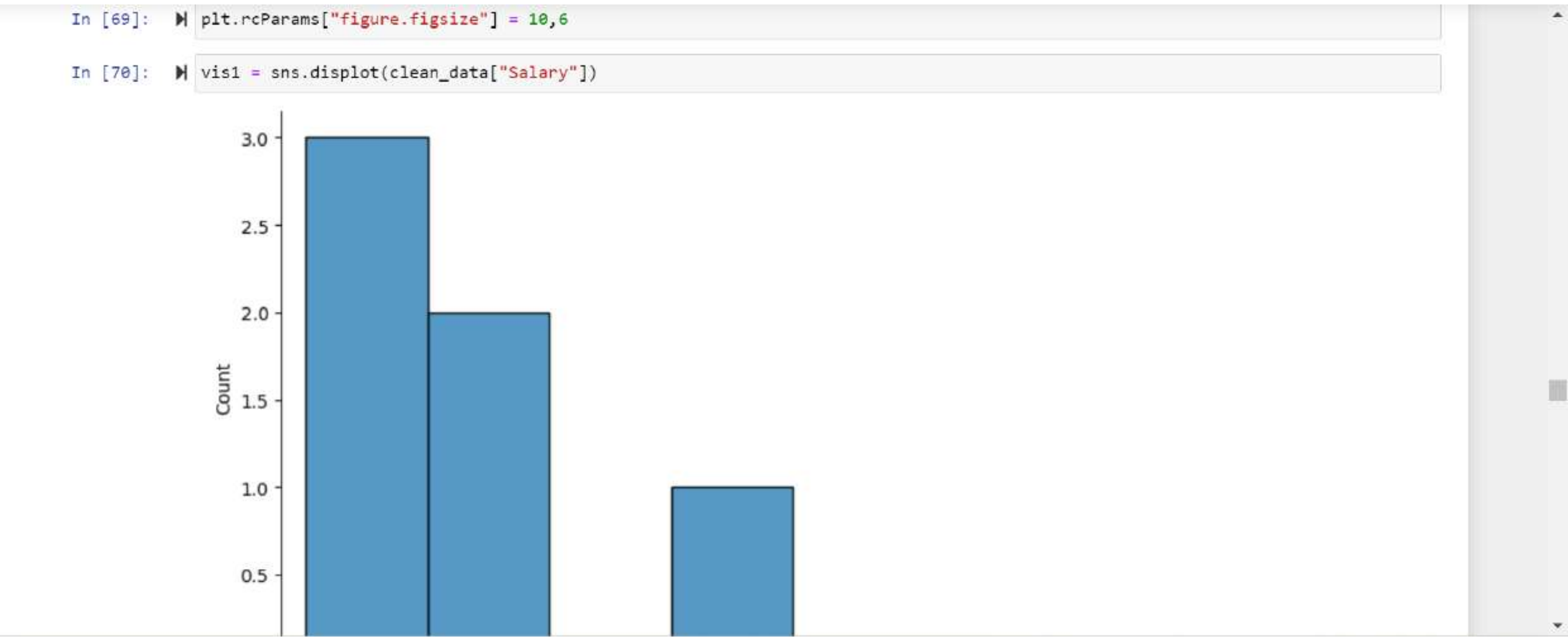
Out[66]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50	Bangalore	15000	4
3	Jane	Analytics	50	Hyderbad	20000	4
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10



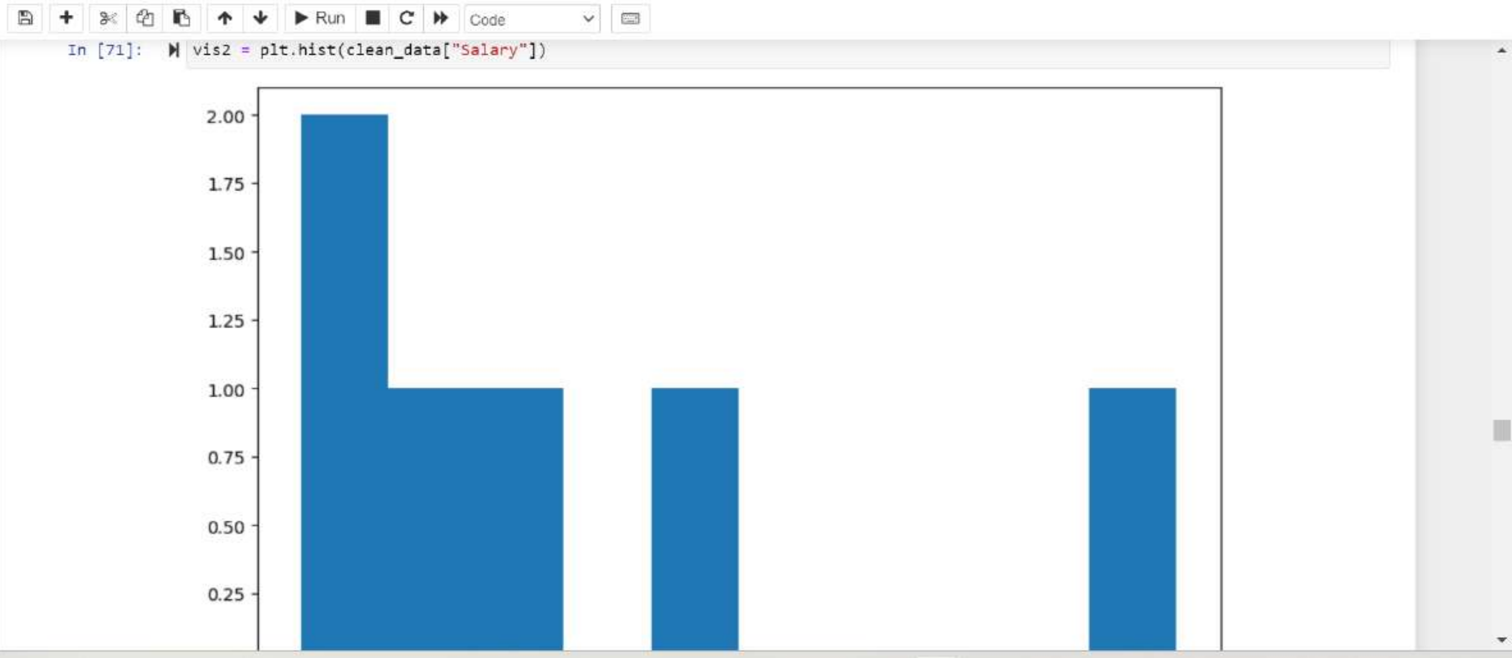
```
In [67]:  clean_data["Salary"]

Out[67]:  0     5000
          1    10000
          2    15000
          3    20000
          4    30000
          5    60000
          Name: Salary, dtype: int32

In [68]:  vis1 = sns.displot(clean_data['Salary'])
```


jupyter
Data cleaning PANDAS Last Checkpoint: an hour ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Count
10000
20000
30000
40000
50000
60000
Salary

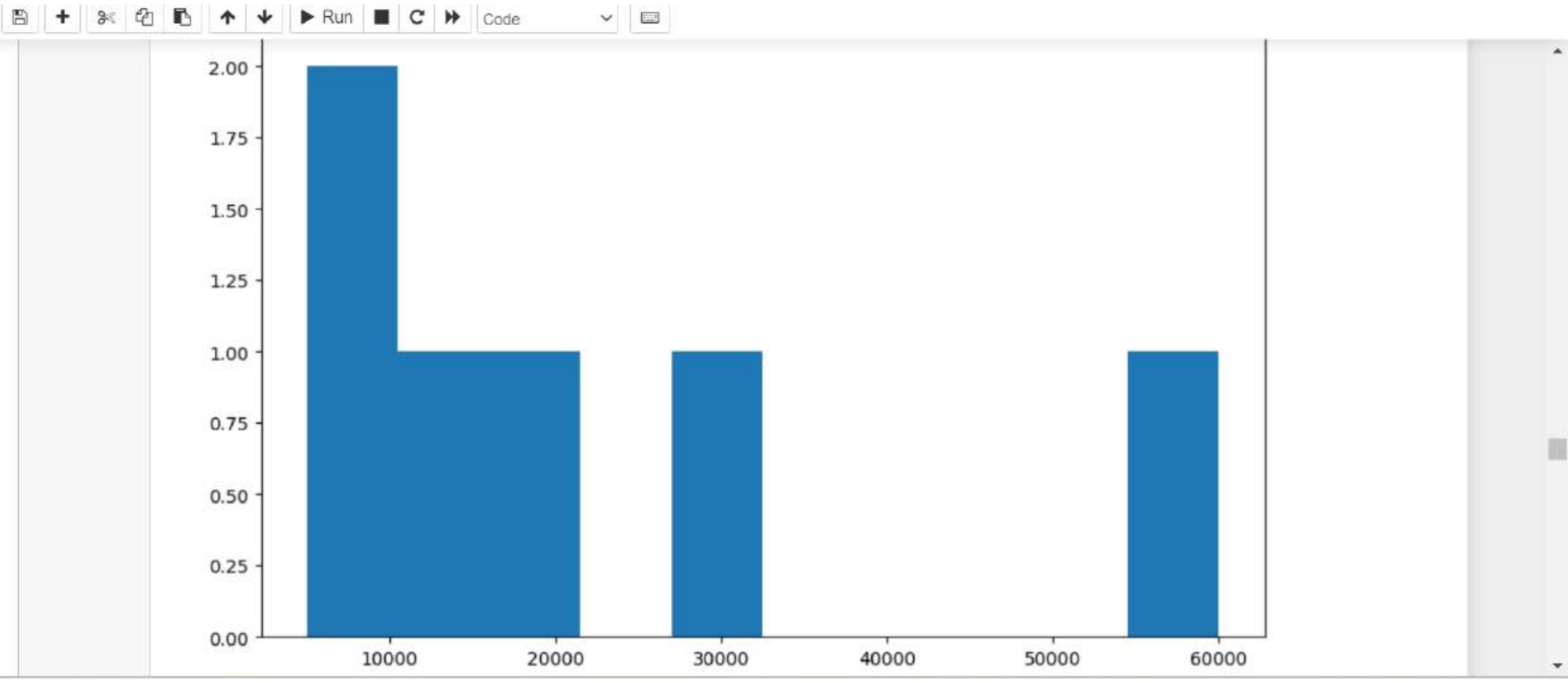


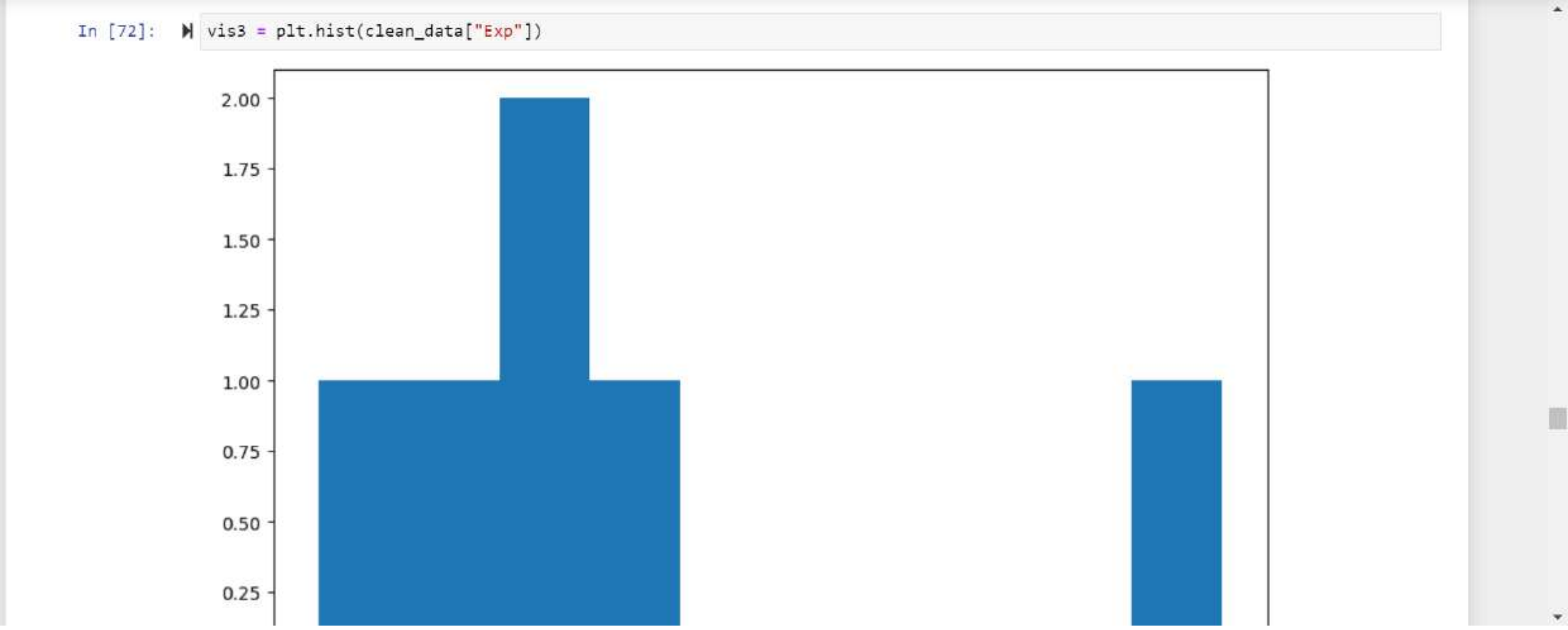
```
In [69]:  plt.rcParams["figure.figsize"] = 10,6
```

```
In [70]:  vis1 = sns.displot(clean_data["Salary"])
```

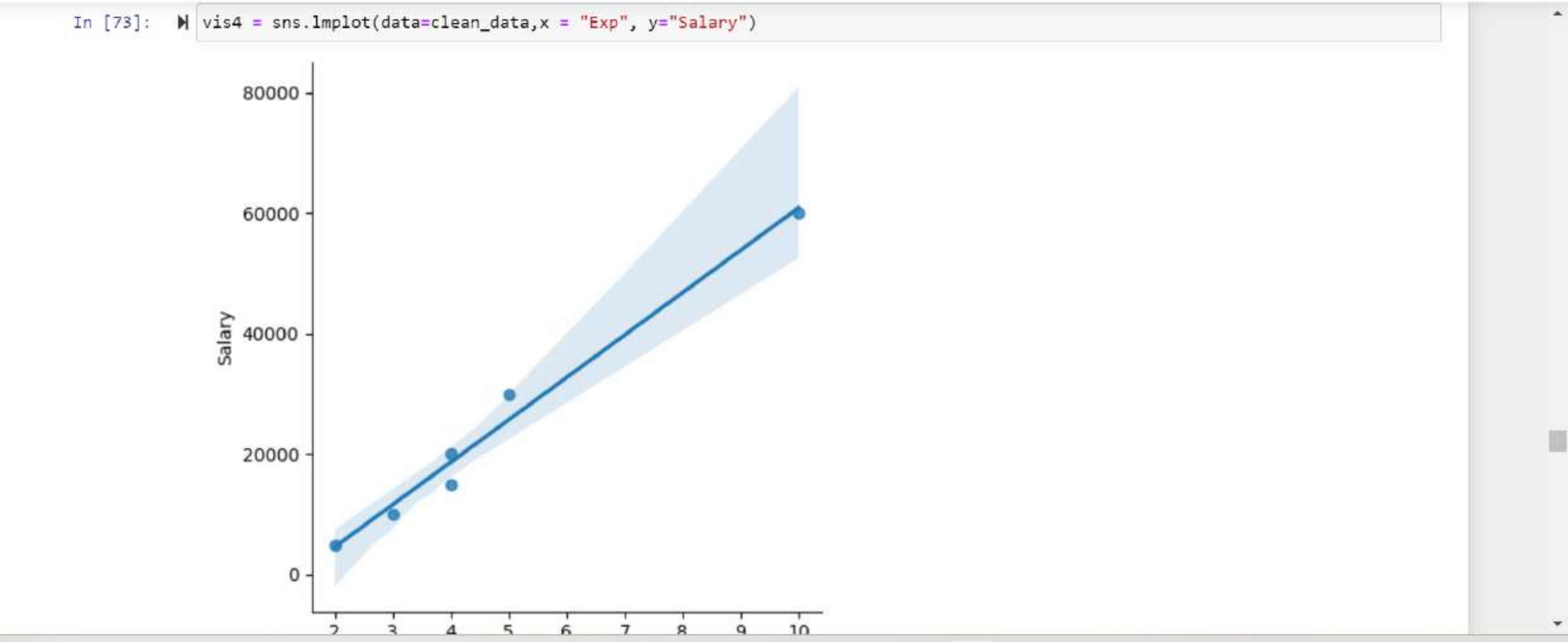


```
In [71]:   vis2 = plt.hist(clean_data["Salary"])
```

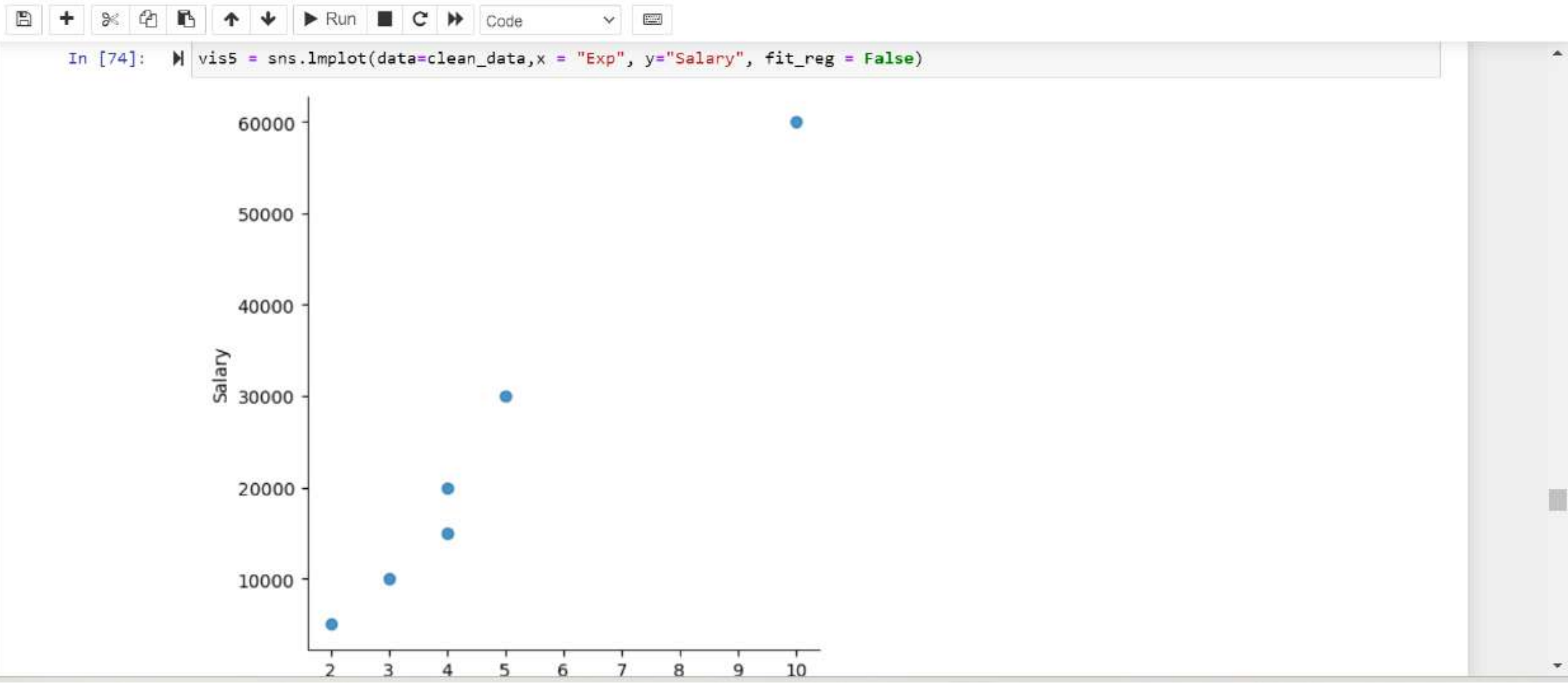

Run
Code
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
10000
20000
30000
40000
50000
60000



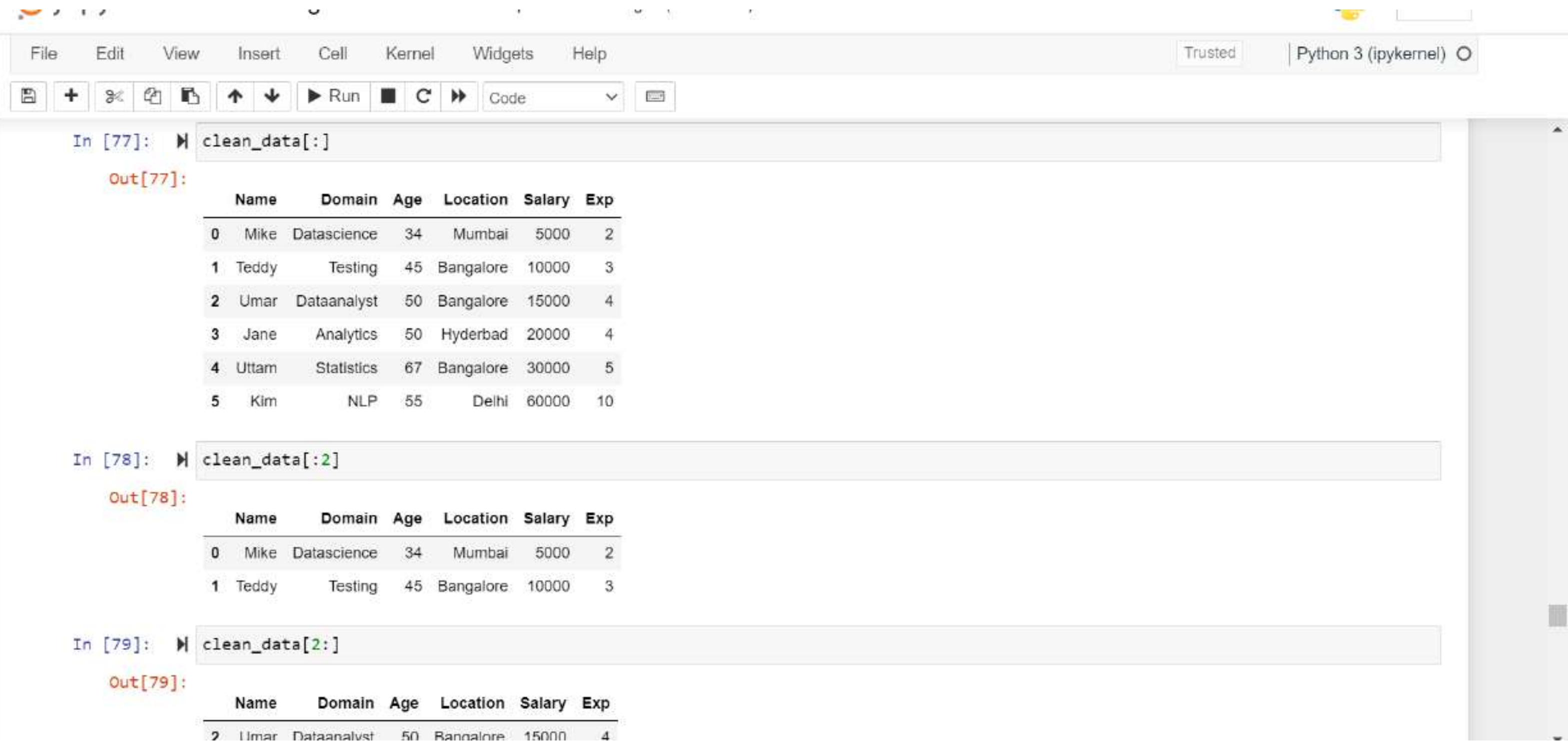
```
In [72]:  vis3 = plt.hist(clean_data["Exp"])
```



```
In [73]:  vis4 = sns.lmplot(data=clean_data,x = "Exp", y="Salary")
```



```
In [74]:  vis5 = sns.lmplot(data=clean_data,x = "Exp", y="Salary", fit_reg = False)
```



In [77]:
```
clean_data[:]
```

Out[77]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50	Bangalore	15000	4
3	Jane	Analytics	50	Hyderbad	20000	4
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10

In [78]:
```
clean_data[:2]
```

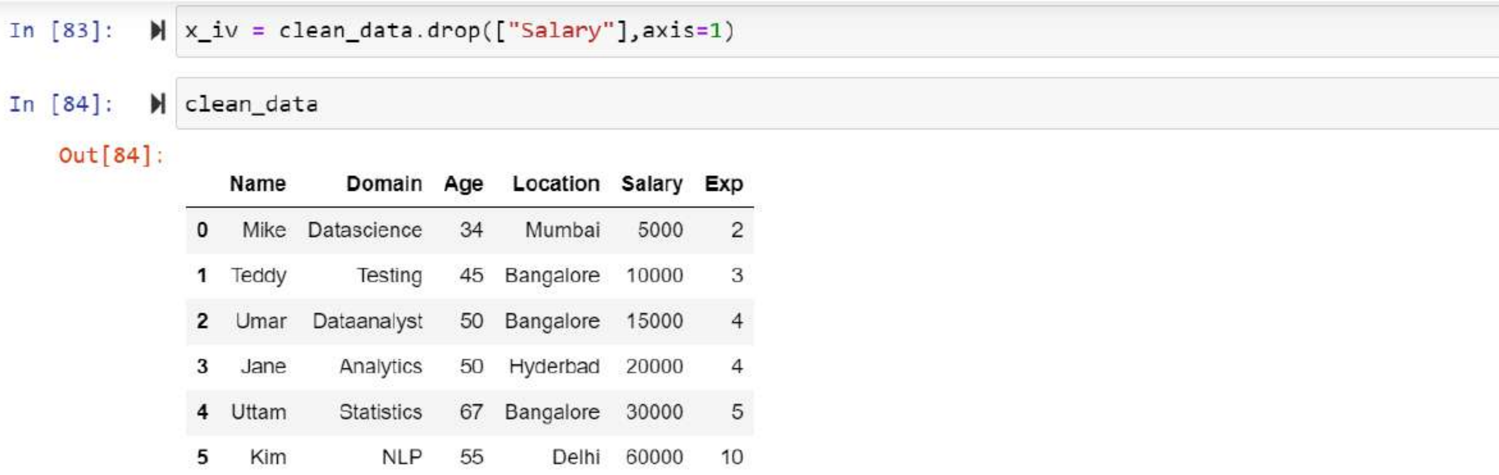
Out[78]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3

In [79]:
```
clean_data[2:]
```

Out[79]:

	Name	Domain	Age	Location	Salary	Exp
2	Umar	Dataanalyst	50	Bangalore	15000	4

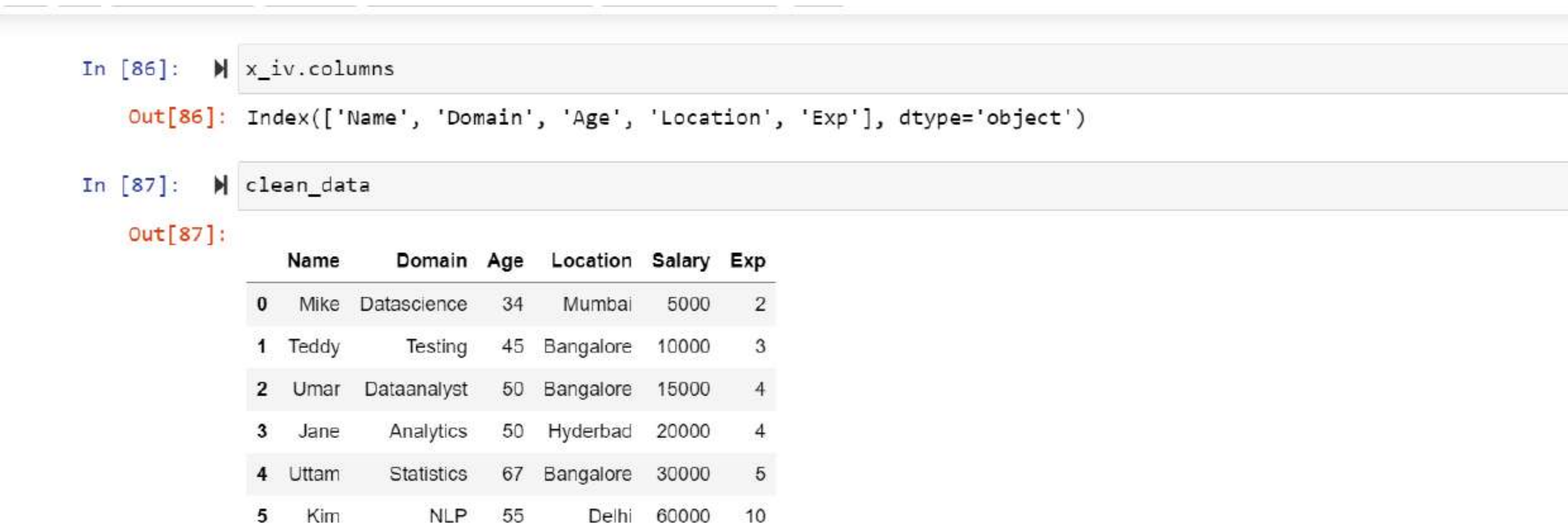


```
In [83]:  x_iv = clean_data.drop(["Salary"],axis=1)
```

```
In [84]:  clean_data
```

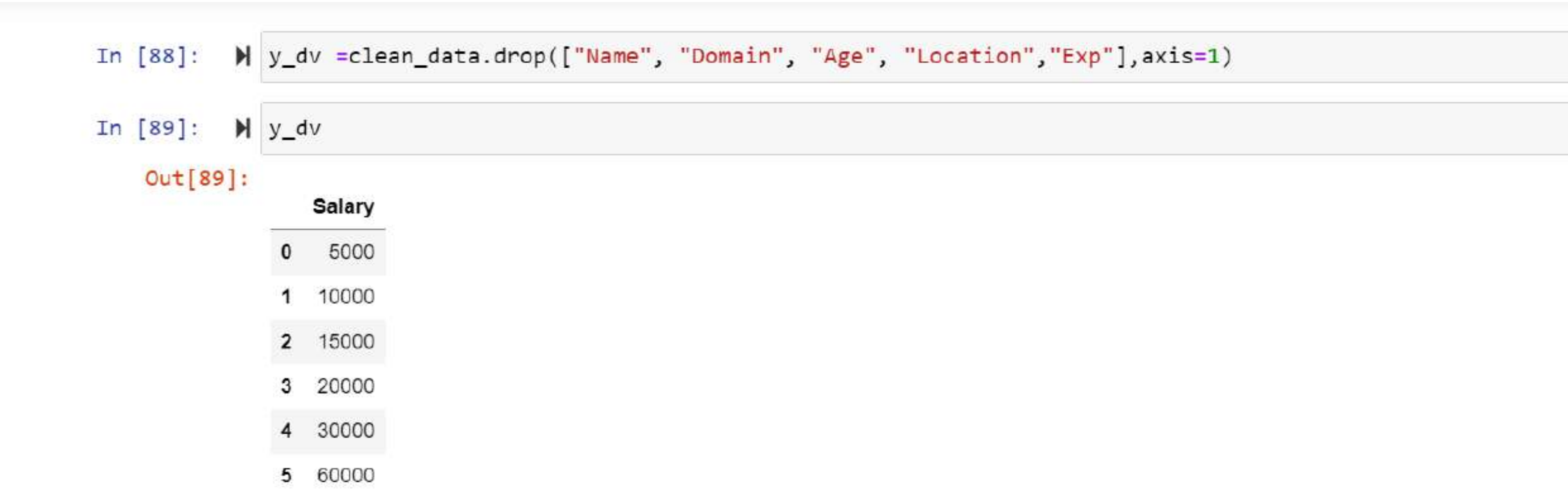
Out[84]:

	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50	Bangalore	15000	4
3	Jane	Analytics	50	Hyderbad	20000	4
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10



```
In [86]:  x_iv.columns

Out[86]:  Index(['Name', 'Domain', 'Age', 'Location', 'Exp'], dtype='object')

In [87]:  clean_data

Out[87]:
```

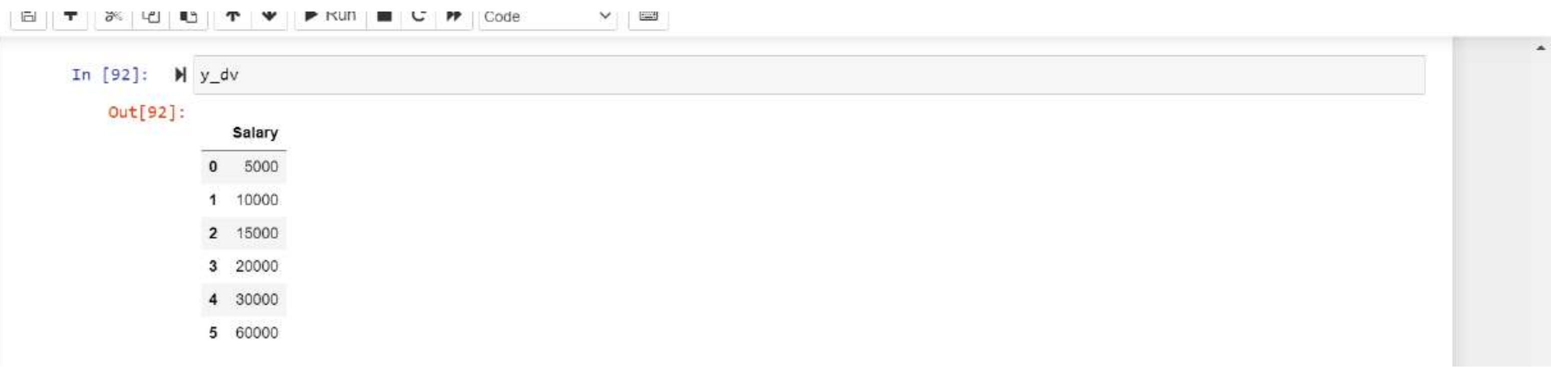
	Name	Domain	Age	Location	Salary	Exp
0	Mike	Datascience	34	Mumbai	5000	2
1	Teddy	Testing	45	Bangalore	10000	3
2	Umar	Dataanalyst	50	Bangalore	15000	4
3	Jane	Analytics	50	Hyderbad	20000	4
4	Uttam	Statistics	67	Bangalore	30000	5
5	Kim	NLP	55	Delhi	60000	10



```
In [88]:   y_dv =clean_data.drop(["Name", "Domain", "Age", "Location","Exp"],axis=1)
```

```
In [89]:   y_dv
```

```
Out[89]:
     Salary
  0    5000
  1   10000
  2   15000
  3   20000
  4   30000
  5   60000
```

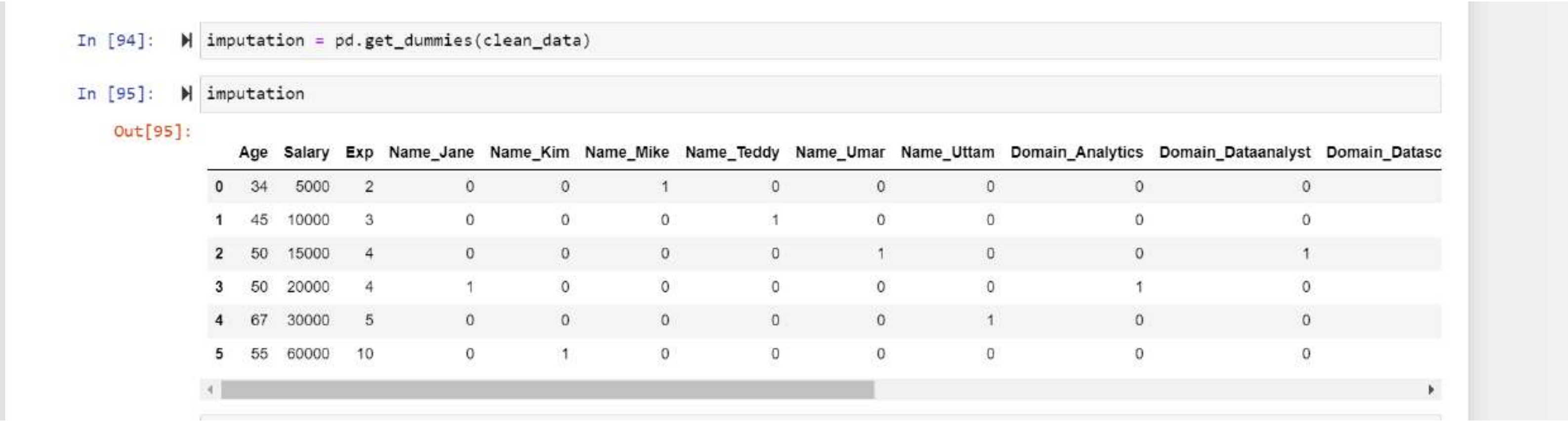


In [92]:

```
y_dv
```

Out[92]:

```
   Salary
0    5000
1   10000
2   15000
3   20000
4   30000
5   60000
```



```
In [94]:  imputation = pd.get_dummies(clean_data)

In [95]:  imputation

Out[95]:
```

	Age	Salary	Exp	Name_Jane	Name_Kim	Name_Mike	Name_Teddy	Name_Umar	Name_Uttam	Domain_Analytics	Domain_Dataanalyst	Domain_Datasc
0	34	5000	2	0	0	1	0	0	0	0	0	
1	45	10000	3	0	0	0	1	0	0	0	0	
2	50	15000	4	0	0	0	0	1	0	0	1	
3	50	20000	4	1	0	0	0	0	0	1	0	
4	67	30000	5	0	0	0	0	0	1	0	0	
5	55	60000	10	0	1	0	0	0	0	0	0	