PRACTICAL NO : 05

DATA ANALYTICS 2

CODE :

```
import pandas as pd
df=pd.read_csv(r'E:\DSBDA\DSBDA Datasets\Social_Network_Ads.csv')
print(df)

df['Gender']

df.isnull()

df.dtypes

df['Gender']=df['Gender'].map({'Male':1,'Female':0})
df['Gender']

x=df.drop(['Age'],axis=1)
y=df['Age']

from sklearn.model_selection import train_test_split
xtrain,xtest,ytrain,ytest=train_test_split(x,y,test_size=0.25,random_state=0)
from sklearn.preprocessing import StandardScaler
st_x=StandardScaler()
xtrain=st_x.fit_transform(xtrain)
xtest=st_x.transform(xtest)
```

```
from sklearn.linear_model import LogisticRegression
classifier=LogisticRegression(random_state=0)
classifier.fit(xtrain, ytrain)

y_pred=classifier.predict(xtest)
y_pred

from sklearn.metrics import confusion_matrix
cm=confusion_matrix(ytest,y_pred)
cm
```

OUTPUT :

```
runfile('E:/DSBDA/dsbdapr5.py', wdir='E:/DSBDA')
     User ID  Gender  Age  EstimatedSalary  Purchased
0    15624510    Male   19          19000        0
1    15810944    Male   35          20000        0
2    15668575  Female   26          43000        0
3    15603246  Female   27          57000        0
4    15804002    Male   19          76000        0
..       ...     ...  ...            ...      ...
395  15691863  Female   46          41000        1
396  15706071    Male   51          23000        1
397  15654296  Female   50          20000        1
398  15755018    Male   36          33000        0
399  15594041  Female   49          36000        1
```

[400 rows x 5 columns]

df.isnull()

Out[3]:

	User ID	Gender	Age	EstimatedSalary	Purchased
0	False	False	False	False	False
1	False	False	False	False	False
2	False	False	False	False	False
3	False	False	False	False	False
4	False	False	False	False	False
..	...	...	...	...	...
395	False	False	False	False	False
396	False	False	False	False	False
397	False	False	False	False	False
398	False	False	False	False	False
399	False	False	False	False	False

[400 rows x 5 columns]

df.dtypes

Out[4]:

User ID int64

Gender int64

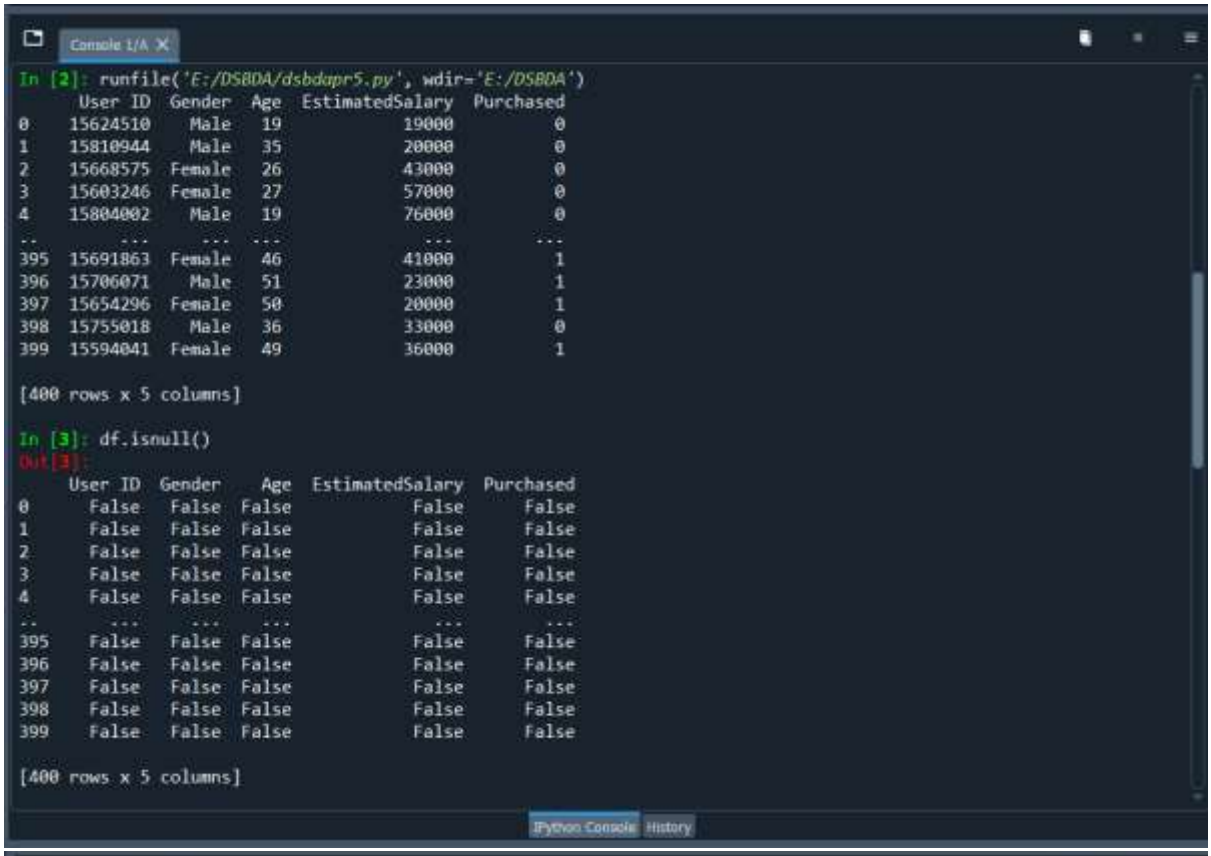
Age int64

EstimatedSalary int64

```
Purchased        int64
dtype: object


cm
Out[5]:
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=int64)
```

OUTPUT :



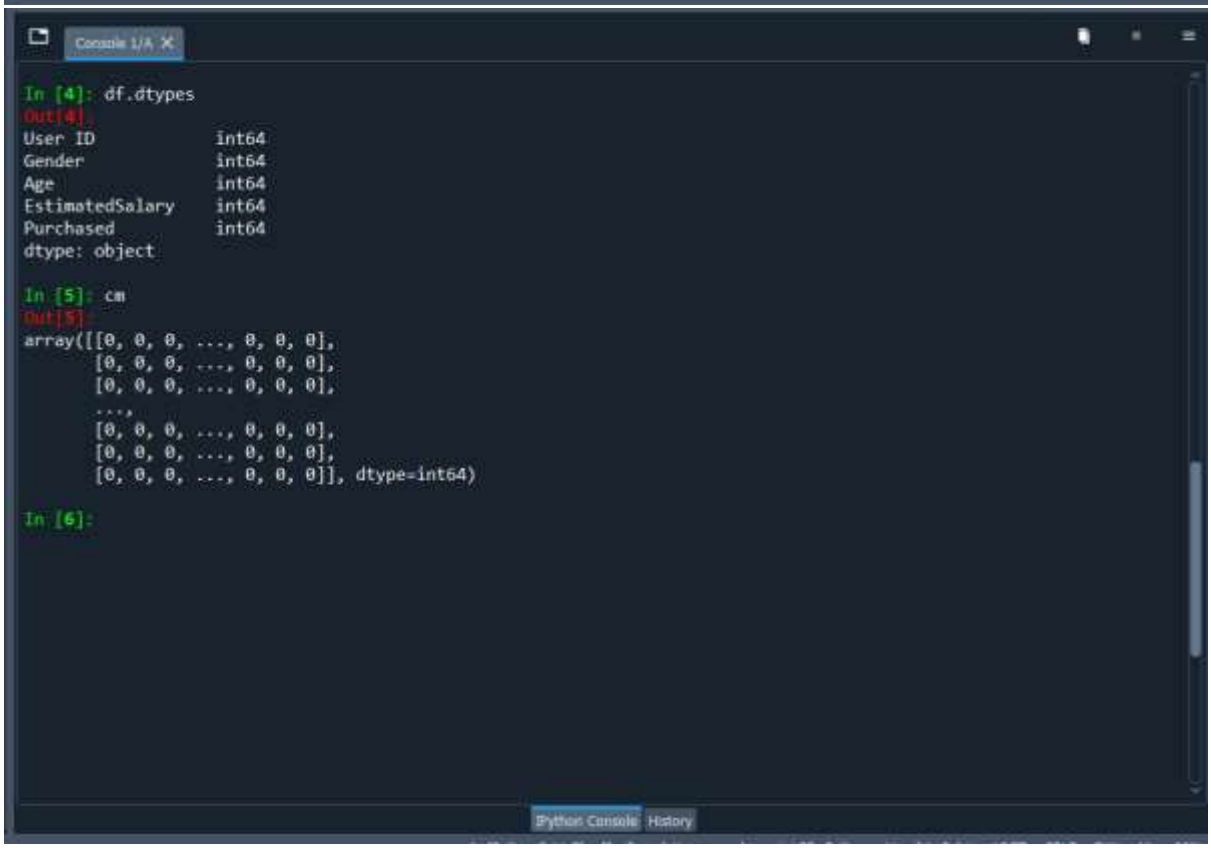
```
In [2]: runfile('E:/DSBDA/dsbdapr5.py', wdir='E:/DSBDA')
     User ID  Gender  Age  EstimatedSalary  Purchased
0   15624510    Male   19            19000          0
1   15810944    Male   35            20000          0
2   15668575  Female   26            43000          0
3   15603246  Female   27            57000          0
4   15804002    Male   19            76000          0
..       ...     ...  ...              ...        ...
395 15691863  Female   46            41000          1
396 15706071    Male   51            23000          1
397 15654296  Female   50            20000          1
398 15755018    Male   36            33000          0
399 15594041  Female   49            36000          1

[400 rows x 5 columns]

In [3]: df.isnull()
Out[3]:
     User ID  Gender    Age  EstimatedSalary  Purchased
0      False   False  False            False      False
1      False   False  False            False      False
2      False   False  False            False      False
3      False   False  False            False      False
4      False   False  False            False      False
..       ...     ...    ...              ...        ...
395    False   False  False            False      False
396    False   False  False            False      False
397    False   False  False            False      False
398    False   False  False            False      False
399    False   False  False            False      False

[400 rows x 5 columns]
```

IPython Console | History



```
In [4]: df.dtypes
Out[4]:
User ID           int64
Gender            int64
Age               int64
EstimatedSalary   int64
Purchased         int64
dtype: object

In [5]: cm
Out[5]:
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=int64)

In [6]:
```

IPython Console | History