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

In [2]:
```
data=pd.read_csv("Social_Network_Ads.csv")
```

In [3]:
```
data
```

Out[3]:

	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 × 5 columns

In [5]:
```
data=pd.get_dummies(data,drop_first=True)
```

In [6]:
```
data
```

Out[6]:

	User ID	Age	EstimatedSalary	Purchased	Gender_Male
0	15624510	19	19000	0	True
1	15810944	35	20000	0	True
2	15668575	26	43000	0	False
3	15603246	27	57000	0	False
4	15804002	19	76000	0	True
...	...	...	...	...	...
395	15691863	46	41000	1	False
396	15706071	51	23000	1	True
397	15654296	50	20000	1	False
398	15755018	36	33000	0	True
399	15594041	49	36000	1	False

400 rows × 5 columns

In [16]:
```
data["Gender_Male"]=data["Gender_Male"].replace({True:1,False:0})
print(data)
```

```
     User ID  Age  EstimatedSalary  Purchased  Gender_Male
0   15624510   19            19000          0            1
1   15810944   35            20000          0            1
2   15668575   26            43000          0            0
3   15603246   27            57000          0            0
4   15804002   19            76000          0            1
..       ...  ...              ...        ...          ...
395 15691863   46            41000          1            0
396 15706071   51            23000          1            1
397 15654296   50            20000          1            0
398 15755018   36            33000          0            1
399 15594041   49            36000          1            0

[400 rows x 5 columns]
```

In [19]:
```
data=data.drop(columns=["User ID"])
print(data)
```

```
     Age  EstimatedSalary  Purchased  Gender_Male
0     19            19000          0            1
1     35            20000          0            1
2     26            43000          0            0
3     27            57000          0            0
4     19            76000          0            1
..   ...              ...        ...          ...
395   46            41000          1            0
396   51            23000          1            1
397   50            20000          1            0
398   36            33000          0            1
399   49            36000          1            0

[400 rows x 4 columns]
```

In [26]:
```
x=data[["Gender_Male","Age","EstimatedSalary"]]
y=data[["Purchased"]]
```

In [27]:
```
x
```

Out[27]:

	Gender_Male	Age	EstimatedSalary
0	1	19	19000
1	1	35	20000
2	0	26	43000
3	0	27	57000
4	1	19	76000
...	...	...	...
395	0	46	41000
396	1	51	23000
397	0	50	20000
398	1	36	33000
399	0	49	36000

400 rows × 3 columns

In [28]:
```
y
```

Out[28]:

	Purchased
0	0
1	0
2	0
3	0
4	0
...	...
395	1
396	1
397	1
398	0
399	1

400 rows × 1 columns

In [29]:
```
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2,random_state=42)
```

In [31]:
```
from sklearn.svm import SVC
Classifier=SVC(kernel='rbf',random_state=0)
Classifier.fit(x_train,y_train)
```

```
C:\Users\fazil\anaconda3\Lib\site-packages\sklearn\utils\validation.py:1300: DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples, ), for example using ravel().
  y = column_or_1d(y, warn=True)
```

Out[31]:

SVC(random_state=0)

In [32]:
```
y_pred=Classifier.predict(x_test)
```

In [38]:
```
from sklearn.metrics import confusion_matrix
cm=confusion_matrix(y_test,y_pred)
print(cm)
```

```
[[49  3]
 [18 10]]
```

In [39]:
```
Age=int(input("enter the prediction input values:"))
EstimatedSalary=int(input("enter the prediction input values:"))
Gender_Male=int(input("enter the prediction input values:"))
future_prediction=Classifier.predict([[Age,EstimatedSalary,Gender_Male]])
print("future_prediction={purchase=0,Not purchase=1}",format(future_prediction))
```

```
future_prediction={purchase=0,Not purchase=1} [0]
```

```
C:\Users\fazil\anaconda3\lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but SVC was fitted with feature names
  warnings.warn(
```

In [ ]: