```python
In [1]:  import numpy as np
         import matplotlib.pyplot as plt
         import pandas as pd

         # Importing the dataset
         dataset = pd.read_csv('Advertising_data.csv')
         X = dataset.iloc[:, [2, 3]].values
         y = dataset.iloc[:, 4].values
```

```python
In [2]:  dataset.head()
```

Out[2]:

	User ID	Gender	Age	EstimatedSalary	Purchased
0	15624510	Male	19.0	19000.0	0
1	15810944	Male	35.0	20000.0	0
2	15668575	Female	26.0	43000.0	0
3	15603246	Female	27.0	57000.0	0
4	15804002	Male	19.0	76000.0	0

```python
In [3]:  from sklearn.model_selection import train_test_split
         X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.25, random_state = 5)
```

```python
In [4]:  from sklearn.preprocessing import StandardScaler
         sc = StandardScaler()
         X_train = sc.fit_transform(X_train)
         X_test = sc.transform(X_test)
```

```python
In [5]:  from sklearn.svm import SVC
         classifier = SVC(kernel = 'linear', random_state = 0)
         classifier.fit(X_train, y_train)
```

Out[5]: SVC(kernel='linear', random_state=0)

```python
In [6]:  y_pred = classifier.predict(X_test)
```

```python
In [7]:  from sklearn.metrics import confusion_matrix
         cm = confusion_matrix(y_test, y_pred)
```

```python
In [8]:  from sklearn.metrics import accuracy_score
         accuracy=accuracy_score(y_test,y_pred)
```

```python
In [9]:  accuracy
```

Out[9]: 0.85

```python
In [10]:  from sklearn.model_selection import GridSearchCV
```

```python
In [11]:  parameters = [{'C': [1, 10, 100, 1000], 'kernel': ['linear']},
                        {'C': [1, 10, 100, 1000], 'kernel': ['rbf'], 'gamma': [0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9]}]
          grid_search = GridSearchCV(estimator = classifier,
                                     param_grid = parameters,
                                     scoring = 'accuracy',
                                     cv = 10,
                                     n_jobs = -1)
          grid_search = grid_search.fit(X_train, y_train)
```

```python
In [14]:  accuracy = grid_search.best_score_
```

```python
In [15]:  accuracy
```

Out[15]: 0.9100000000000001

```python
In [16]:  grid_search.best_params_
```

Out[16]: {'C': 10, 'gamma': 0.3, 'kernel': 'rbf'}

```python
In [17]:  classifier = SVC(kernel = 'rbf', gamma=0.3)
          classifier.fit(X_train, y_train)
```

Out[17]: SVC(gamma=0.3)

```python
In [18]:  y_pred = classifier.predict(X_test)
```

```python
In [19]:  from sklearn.metrics import confusion_matrix
          cm = confusion_matrix(y_test, y_pred)
```

```python
In [20]:  from sklearn.metrics import accuracy_score
          accuracy=accuracy_score(y_test,y_pred)
```

```python
In [21]:  accuracy
```

Out[21]: 0.92
```