```
In [31]: data.head()
```

Out[31]:

	age	workclass	fnlwgt	education	education-num	marital-status	occupation	relationship	race	sex	capital-gain	capital-loss	hours-per-week	native-country	income
0	39	State-gov	77516	Bachelors	13	Never-married	Adm-clerical	Not-in-family	White	Male	2174	0	40	United-States	<=50K
1	50	Self-emp-not-inc	83311	Bachelors	13	Married-civ-spouse	Exec-managerial	Husband	White	Male	0	0	13	United-States	<=50K
2	38	Private	215646	HS-grad	9	Divorced	Handlers-cleaners	Not-in-family	White	Male	0	0	40	United-States	<=50K
3	53	Private	234721	11th	7	Married-civ-spouse	Handlers-cleaners	Husband	Black	Male	0	0	40	United-States	<=50K
4	28	Private	338409	Bachelors	13	Married-civ-spouse	Prof-specialty	Wife	Black	Female	0	0	40	Cuba	<=50K

Train the Naive Bayes classifier:

```
In [17]: classifier = GaussianNB()
         classifier.fit(X_train, y_train)
```

Out[17]:

```
▾ GaussianNB
GaussianNB()
```

Calculate Accuracy:

```
In [19]: accuracy = accuracy_score(y_test, y_pred)
         print("Accuracy:", accuracy)
```

```
Accuracy: 0.8004913501893746
```

Compute confusion matrix:

```
In [20]: confusion = confusion_matrix(y_test, y_pred)
         print("Confusion Matrix:")
         print(confusion)
```

```
Confusion Matrix:
[[7081  334]
 [1615  739]]
```

Compute sensitivity (true positive rate):

```
In [23]: sensitivity = tp / (tp + fn)
         print("Sensitivity:", sensitivity)
```

```
Sensitivity: 0.3139337298215803
```

Compute specificity (true negative rate):

```
In [25]: specificity = tn / (tn + fp)
         print("Specificity:", specificity)
```

```
Specificity: 0.954956169925826
```

Compute the posterior probability of making over 50K a year: