1. What is good measure for prediction accuracy?

   For measuring accuracy, we can choose precision and recall, by using the true/false positives/negatives.

   Also, accuracy can be judged by error metrics, such as mae or rmse.

2. What are possible shortcomings and extensions of your implementation?

   Shortcomings – in the current implementation, only two features have been used to make gender predictions, guess, we cannot just rely on these two features.

   Extensions – we can maintain user profiles and capture their interests, also we can perform item-item similarity on the items being purchased by a user over a period of time, this will help to predict gender and even help in recommending new items.

3. How would you design a real-time performance system that takes every click event as input and returns the gender prediction of this customer? Note that the performance system should respond to a high volume of user events efficiently.