

**Final Model Parameters:**

```
alsDemog = ALS(rank=10, maxIter=5, regParam=0.01, userCol="Customer_Code",  
itemCol="Item", ratingCol="Rating",  
coldStartStrategy="drop")
```

**Performance Metrics:**

Logistic Regression Model-based Collaborative Filtering

Root-mean-square error for Rank 10 = 0.19667073659587125