

TEST REPORT

Unit Testing:
Using # in csv:
Input:

```
sushi@sushi-HP-Notebook: ~/Desktop/project/data
Date,Open,High,Low,Close,Adj Close,Volume
02022-07-24,1296.000000,1311.000000,1277.000000,1302.300049,1302.300049,134176
#02022-07-25,1302.099976,1302.300049,1266.000000,1277.550049,1277.550049,23754
02022-07-26,1278.000000,1283.099976,1268.250000,1279.699951,1279.699951,92587
02022-07-27,1280.000000,1300.599976,1270.000000,1274.199951,1274.199951,42851
02022-07-28,1276.500000,1282.449951,1270.000000,1272.349976,1272.349976,25349
02022-07-29,1309.000000,1309.000000,1264.000000,1278.599976,1278.599976,226290
02022-08-01,1285.300049,1294.250000,1270.000000,1281.500000,1281.500000,144460
02022-08-02,1289.500000,1295.000000,1271.000000,1277.900024,1277.900024,99061
02022-08-03,1284.599976,1287.000000,1266.000000,1278.699951,1278.699951,162881
02022-08-04,1286.599976,1286.599976,1261.650024,1278.650024,1278.650024,75441
02022-08-05,1286.550049,1286.550049,1270.000000,1279.800049,1279.800049,41679
02022-08-08,1294.000000,1295.000000,1270.000000,1275.000000,1275.000000,61755
02022-08-10,1276.000000,1280.000000,1270.000000,1271.550049,1271.550049,59310
02022-08-11,1284.500000,1284.500000,1267.199951,1269.900024,1269.900024,27223
02022-08-12,1276.000000,1280.750000,1271.000000,1278.400024,1278.400024,69740
02022-08-16,1270.000000,1282.000000,1267.099976,1276.550049,1276.550049,28231
02022-08-17,1280.900024,1291.000000,1273.500000,1274.500000,1274.500000,156295
02022-08-18,1279.000000,1280.949951,1256.000000,1260.750000,1260.750000,43415
02022-08-19,1268.550049,1305.000000,1260.750000,1297.150024,1297.150024,573754
02022-08-22,1311.949951,1322.949951,1285.000000,1297.150024,1297.150024,71817
02022-08-23,1297.000000,1310.000000,1280.000000,1296.150024,1296.150024,48817
02022-08-24,1286.000000,1341.000000,1285.949951,1324.650024,1324.650024,257355
02022-08-25,1331.599976,1358.449951,1308.050049,1345.750000,1345.750000,154248
02022-08-26,1354.250000,1369.000000,1321.349976,1333.250000,1333.250000,74744
02022-08-29,1320.000000,1367.599976,1295.250000,1353.400024,1353.400024,205022
02022-08-30,1359.000000,1373.050049,1335.000000,1369.949951,1369.949951,104982
02022-09-01,1369.000000,1382.849976,1345.000000,1376.400024,1376.400024,66453
02022-09-02,1376.400024,1378.000000,1342.000000,1354.099976,1354.099976,70595
02022-09-05,1354.099976,1370.150024,1340.000000,1346.300049,1346.300049,33949
02022-09-06,1352.050049,1356.949951,1336.099976,1346.900024,1346.900024,28802
02022-09-07,1347.500000,1386.500000,1345.000000,1381.849976,1381.849976,51358
02022-09-08,1389.099976,1424.000000,1372.449951,1416.949951,1416.949951,83111
02022-09-09,1424.400024,1427.500000,1387.000000,1393.800049,1393.800049,46448
02022-09-12,1399.000000,1400.449951,1360.000000,1384.900024,1384.900024,95830
02022-09-13,1390.000000,1406.000000,1380.449951,1397.150024,1397.150024,31559
02022-09-14,1377.900024,1395.150024,1344.000000,1357.349976,1357.349976,49190
-- INSERT --
```

Output:

```
sushi@sushi-HP-Notebook: ~/Desktop/project/bin
2022-09-09 1214.500000 1217.500000 1199.150024 1204.449951 1204.449951 51228
2022-09-08 1236.000000 1238.199951 1200.199951 1208.300049 1208.300049 103273
2022-09-07 1229.650024 1255.000000 1213.949951 1226.900024 1226.900024 173494
2022-09-06 1234.150024 1248.400024 1225.000000 1229.650024 1229.650024 80109
2022-09-05 1223.900024 1242.699951 1198.000000 1224.250000 1224.250000 59201
2022-09-02 1217.650024 1230.000000 1200.150024 1222.250000 1222.250000 108188
2022-09-01 1219.550049 1243.800049 1195.000000 1209.949951 1209.949951 86181
2022-08-30 1216.949951 1237.800049 1211.900024 1232.900024 1232.900024 124495
2022-08-29 1214.900024 1230.000000 1194.000000 1212.000000 1212.000000 50501
2022-08-26 1253.000000 1264.599976 1210.050049 1224.000000 1224.000000 176242
2022-08-25 1231.000000 1260.000000 1231.000000 1246.449951 1246.449951 138163
2022-08-24 1250.000000 1259.050049 1216.650024 1230.099976 1230.099976 127820
2022-08-23 1245.000000 1265.000000 1233.000000 1247.900024 1247.900024 174916
2022-08-22 1228.349976 1262.000000 1203.150024 1245.800049 1245.800049 353584
2022-08-19 1240.000000 1250.000000 1203.250000 1228.349976 1228.349976 270621
2022-08-18 1165.000000 1240.000000 1155.800049 1226.150024 1226.150024 1099035
2022-08-17 1160.000000 1183.599976 1145.300049 1155.750000 1155.750000 177918
2022-08-16 1145.300049 1174.000000 1130.949951 1142.599976 1142.599976 69865
2022-08-12 1157.650024 1186.000000 1134.000000 1143.550049 1143.550049 349096
2022-08-11 1169.900024 1169.900024 1145.300049 1156.400024 1156.400024 35965
2022-08-10 1140.000000 1173.699951 1119.250000 1161.400024 1161.400024 147605
2022-08-08 1135.650024 1185.000000 1125.099976 1150.550049 1150.550049 137005
2022-08-05 1146.050049 1148.000000 1125.000000 1131.050049 1131.050049 21972
2022-08-04 1129.000000 1155.000000 1113.099976 1141.949951 1141.949951 99562
2022-08-03 1140.000000 1140.000000 1120.199951 1127.400024 1127.400024 21817
2022-08-02 1137.000000 1140.250000 1122.349976 1132.000000 1132.000000 26384
2022-08-01 1145.199951 1160.000000 1133.900024 1139.650024 1139.650024 23234
2022-07-29 1160.000000 1160.000000 1126.050049 1133.150024 1133.150024 58370
2022-07-28 1130.000000 1149.400024 1105.650024 1113.800049 1113.800049 39529
2022-07-27 1133.349976 1144.650024 1126.199951 1129.349976 1129.349976 24933
2022-07-26 1181.000000 1183.849976 1125.800049 1133.349976 1133.349976 51901
2022-07-25 1165.000000 1179.000000 1155.349976 1169.000000 1169.000000 67424
2022-07-22 1145.000000 1156.599976 1125.199951 1153.599976 1153.599976 81910
1163.815063 is less than 1176.741821
Recommendation : BUY
Press 1:For Main Menu
Press 0:To Exit Program
```

Unit Testing: Using 0 in csv: Input

```
sushi@sushi-HP-Notebook: ~/Desktop/project/data

Date,Open,High,Low,Close,Adj Close,Volume
02022-07-24,1296.000000,1311.000000,1277.000000,1302.300049,1302.300049,134176
#02022-07-25,1302.099976,1302.300049,1266.000000,1277.550049,1277.550049,23754
2022-07-26,1278.000000,1283.099976,1268.250000,1279.699951,1279.699951,92587
2022-07-27,1280.000000,1300.599976,1270.000000,1274.199951,1274.199951,42851
2022-07-28,1276.500000,1282.449951,1270.000000,1272.349976,1272.349976,25349
2022-07-29,1309.000000,1309.000000,1264.000000,1278.599976,1278.599976,226290
2022-08-01,1285.300049,1294.250000,1270.000000,1281.500000,1281.500000,144460
2022-08-02,1289.500000,1295.000000,1271.000000,1277.900024,1277.900024,99061
2022-08-03,1284.599976,1287.000000,1266.000000,1278.699951,1278.699951,162881
2022-08-04,1286.599976,1286.599976,1261.650024,1278.650024,1278.650024,75441
2022-08-05,1286.550049,1286.550049,1270.000000,1279.800049,1279.800049,41679
2022-08-08,1294.000000,1295.000000,1270.000000,1275.000000,1275.000000,61755
2022-08-10,1276.000000,1280.000000,1270.000000,1271.550049,1271.550049,59310
2022-08-11,1284.500000,1284.500000,1267.199951,1269.900024,1269.900024,27223
2022-08-12,1276.000000,1280.750000,1271.000000,1278.400024,1278.400024,69740
2022-08-16,1270.000000,1282.000000,1267.099976,1276.550049,1276.550049,28231
2022-08-17,1280.900024,1291.000000,1273.500000,1274.500000,1274.500000,156295
2022-08-18,1279.000000,1280.949951,1256.000000,1260.750000,1260.750000,43415
2022-08-19,1268.550049,1305.000000,1260.750000,1297.150024,1297.150024,573754
2022-08-22,1311.949951,1322.949951,1285.000000,1297.150024,1297.150024,71817
2022-08-23,1297.000000,1310.000000,1280.000000,1296.150024,1296.150024,48817
2022-08-24,1286.000000,1341.000000,1285.949951,1324.650024,1324.650024,257355
2022-08-25,1331.599976,1358.449951,1308.050049,1345.750000,1345.750000,154248
2022-08-26,1354.250000,1369.000000,1321.349976,1333.250000,1333.250000,74744
2022-08-29,1320.000000,1367.599976,1295.250000,1353.400024,1353.400024,205022
2022-08-30,1359.000000,1373.050049,1335.000000,1369.949951,1369.949951,104982
2022-09-01,1369.000000,1382.849976,1345.000000,1376.400024,1376.400024,66453
2022-09-02,1376.400024,1378.000000,1342.000000,1354.099976,1354.099976,70595
2022-09-05,1354.099976,1370.150024,1340.000000,1346.300049,1346.300049,33949
2022-09-06,1352.050049,1356.949951,1336.099976,1346.900024,1346.900024,28802
2022-09-07,1347.500000,1386.500000,1345.000000,1381.849976,1381.849976,51358
2022-09-08,1389.099976,1424.000000,1372.449951,1416.949951,1416.949951,83111
2022-09-09,1424.400024,1427.500000,1387.000000,1393.800049,1393.800049,46448
2022-09-12,1399.000000,1400.449951,1360.000000,1384.900024,1384.900024,95830
2022-09-13,1390.000000,1406.000000,1380.449951,1397.150024,1397.150024,31559
2022-09-14,1377.900024,1395.150024,1344.000000,1357.349976,1357.349976,49190
-- INSERT --
```

Output:

```
sushi@sushi-HP-Notebook: ~/Desktop/project/bin

2022-09-09      1214.500000      1217.500000      1199.150024      1204.449951      1204.449951      51228
2022-09-08      1236.000000      1238.199951      1200.199951      1208.300049      1208.300049      103273
2022-09-07      1229.650024      1255.000000      1213.949951      1226.900024      1226.900024      173494
2022-09-06      1234.150024      1248.400024      1225.000000      1229.650024      1229.650024      80109
2022-09-05      1223.900024      1242.699951      1198.000000      1224.250000      1224.250000      59201
2022-09-02      1217.650024      1230.000000      1200.150024      1222.250000      1222.250000      108188
2022-09-01      1219.550049      1243.800049      1195.000000      1209.949951      1209.949951      86181
2022-08-30      1216.949951      1237.800049      1211.900024      1232.900024      1232.900024      124495
2022-08-29      1214.900024      1230.000000      1194.000000      1212.000000      1212.000000      50501
2022-08-26      1253.000000      1264.599976      1210.050049      1224.000000      1224.000000      176242
2022-08-25      1231.000000      1260.000000      1231.000000      1246.449951      1246.449951      138163
2022-08-24      1250.000000      1259.050049      1216.650024      1230.099976      1230.099976      127820
2022-08-23      1245.000000      1265.000000      1233.000000      1247.900024      1247.900024      174916
2022-08-22      1228.349976      1262.000000      1203.150024      1245.800049      1245.800049      353584
2022-08-19      1240.000000      1250.000000      1203.250000      1228.349976      1228.349976      270621
2022-08-18      1165.000000      1240.000000      1155.800049      1226.150024      1226.150024      1099035
2022-08-17      1160.000000      1183.599976      1145.300049      1155.750000      1155.750000      177918
2022-08-16      1145.300049      1174.000000      1130.949951      1142.599976      1142.599976      69865
2022-08-12      1157.650024      1186.000000      1134.000000      1143.550049      1143.550049      349096
2022-08-11      1169.900024      1169.900024      1145.300049      1156.400024      1156.400024      35965
2022-08-10      1140.000000      1173.699951      1119.250000      1161.400024      1161.400024      147605
2022-08-08      1135.650024      1185.000000      1125.099976      1150.550049      1150.550049      137005
2022-08-05      1146.050049      1148.000000      1125.000000      1131.050049      1131.050049      21972
2022-08-04      1129.000000      1155.000000      1113.099976      1141.949951      1141.949951      99562
2022-08-03      1140.000000      1140.000000      1120.199951      1127.400024      1127.400024      21817
2022-08-02      1137.000000      1140.250000      1122.349976      1132.000000      1132.000000      26384
2022-08-01      1145.199951      1160.000000      1133.900024      1139.650024      1139.650024      23234
2022-07-29      1160.000000      1160.000000      1126.050049      1133.150024      1133.150024      58370
2022-07-28      1130.000000      1149.400024      1105.650024      1113.800049      1113.800049      39529
2022-07-27      1133.349976      1144.650024      1126.199951      1129.349976      1126.349976      24933
2022-07-26      1181.000000      1183.849976      1125.800049      1133.349976      1130.339355      51901
2022-07-25      1165.000000      1179.000000      1155.349976      1169.000000      1165.894653      67424
2022-07-22      1145.000000      1156.599976      1125.199951      1153.599976      1150.535522      81910
1163.815063 is less than 1176.741821
Recommendation : BUY
Press 1:For Main Menu
Press 0:To Exit Program
```


Integration testing:

IT_Test_case 1 (Recommendation Buy):

```
sushi@sushi-HP-Notebook: ~/Desktop/project/bin

2022-09-09 1214.500000 1217.500000 1199.150024 1204.449951 1204.449951 51228
2022-09-08 1236.000000 1238.199951 1200.199951 1208.300049 1208.300049 103273
2022-09-07 1229.650024 1255.000000 1213.949951 1226.900024 1226.900024 173494
2022-09-06 1234.150024 1248.400024 1225.000000 1229.650024 1229.650024 80109
2022-09-05 1223.900024 1242.699951 1198.000000 1224.250000 1224.250000 59201
2022-09-02 1217.650024 1230.000000 1200.150024 1222.250000 1222.250000 108188
2022-09-01 1219.550049 1243.800049 1195.000000 1209.949951 1209.949951 86181
2022-08-30 1216.949951 1237.800049 1211.900024 1232.900024 1232.900024 124495
2022-08-29 1214.900024 1230.000000 1194.000000 1212.000000 1212.000000 50501
2022-08-26 1253.000000 1264.599976 1210.050049 1224.000000 1224.000000 176242
2022-08-25 1231.000000 1260.000000 1231.000000 1246.449951 1246.449951 138163
2022-08-24 1250.000000 1259.050049 1216.650024 1230.099976 1230.099976 127820
2022-08-23 1245.000000 1265.000000 1233.000000 1247.900024 1247.900024 174916
2022-08-22 1228.349976 1262.000000 1203.150024 1245.800049 1245.800049 353584
2022-08-19 1240.000000 1250.000000 1203.250000 1228.349976 1228.349976 270621
2022-08-18 1165.000000 1240.000000 1155.800049 1226.150024 1226.150024 1099035
2022-08-17 1160.000000 1183.599976 1145.300049 1155.750000 1155.750000 177918
2022-08-16 1145.300049 1174.000000 1130.949951 1142.599976 1142.599976 69865
2022-08-12 1157.650024 1186.000000 1134.000000 1143.550049 1143.550049 349096
2022-08-11 1169.900024 1169.900024 1145.300049 1156.400024 1156.400024 35965
2022-08-10 1140.000000 1173.699951 1119.250000 1161.400024 1161.400024 147605
2022-08-08 1135.650024 1185.000000 1125.099976 1150.550049 1150.550049 137005
2022-08-05 1146.050049 1148.000000 1125.000000 1131.050049 1131.050049 21972
2022-08-04 1129.000000 1155.000000 1113.099976 1141.949951 1141.949951 99562
2022-08-03 1140.000000 1140.000000 1120.199951 1127.400024 1127.400024 21817
2022-08-02 1137.000000 1140.250000 1122.349976 1132.000000 1132.000000 26384
2022-08-01 1145.199951 1160.000000 1133.900024 1139.650024 1139.650024 23234
2022-07-29 1160.000000 1160.000000 1126.050049 1133.150024 1133.150024 58370
2022-07-28 1130.000000 1149.400024 1105.650024 1113.800049 1113.800049 39529
2022-07-27 1133.349976 1144.650024 1126.199951 1129.349976 1126.349976 24933
2022-07-26 1181.000000 1183.849976 1125.800049 1133.349976 1130.339355 51901
2022-07-25 1165.000000 1179.000000 1155.349976 1169.000000 1165.894653 67424
2022-07-22 1145.000000 1156.599976 1125.199951 1153.599976 1150.535522 81910
1163.815063 is less than 1176.741821
Recommendation : BUY
Press 1:For Main Menu
Press 0:To Exit Program
```

Test case-2(Recommendation Sell):

```
sushi@sushi-HP-Notebook: ~/Desktop/project/bin

2022-09-09 1060.000000 1065.949951 1055.000000 1058.300049 1058.300049 1092235
2022-09-08 1058.500000 1059.750000 1044.000000 1056.050049 1056.050049 1755391
2022-09-07 1033.849976 1061.849976 1033.000000 1051.500000 1051.500000 2471263
2022-09-06 1025.000000 1042.000000 1024.900024 1040.849976 1040.849976 1369910
2022-09-05 1012.500000 1030.449951 1012.000000 1025.650024 1025.650024 1275368
2022-09-02 1024.000000 1031.199951 1012.049988 1015.599976 1015.599976 1655229
2022-09-01 1026.000000 1044.250000 1019.400024 1023.000000 1023.000000 1528731
2022-08-30 1018.500000 1042.199951 1016.099976 1038.449951 1038.449951 1571042
2022-08-29 1000.000000 1024.000000 991.299988 1017.299988 1017.299988 1305557
2022-08-26 1030.900024 1035.699951 1018.500000 1020.799988 1020.799988 1264070
2022-08-25 1043.949951 1043.949951 1020.549988 1025.750000 1025.750000 1112617
2022-08-24 1041.000000 1053.849976 1026.050049 1037.349976 1037.349976 1562062
2022-08-23 1010.200012 1046.800049 1010.200012 1040.650024 1040.650024 1868332
2022-08-22 1016.000000 1029.849976 1015.500000 1022.549988 1022.549988 993053
2022-08-19 1029.050049 1036.599976 1020.099976 1030.099976 1030.099976 654004
2022-08-18 1028.500000 1034.050049 1007.349976 1032.199951 1032.199951 1201720
2022-08-17 1039.750000 1042.949951 1024.199951 1025.750000 1025.750000 1102323
2022-08-16 1027.150024 1036.000000 1025.250000 1034.550049 1034.550049 776409
2022-08-12 1043.599976 1043.599976 1022.349976 1027.150024 1027.150024 1140717
2022-08-11 1040.500000 1049.000000 1035.000000 1038.400024 1038.400024 838963
2022-08-10 1035.550049 1046.300049 1029.050049 1038.349976 1038.349976 1293683
2022-08-08 1036.199951 1039.500000 1024.099976 1029.550049 1029.550049 767289
2022-08-05 1040.000000 1045.949951 1032.000000 1034.199951 1029.199951 1561405
2022-08-04 1017.799988 1046.900024 1015.000000 1044.500000 1039.450195 2865077
2022-08-03 1010.000000 1028.750000 1004.500000 1011.849976 1006.958008 4052763
2022-08-02 1003.650024 1006.099976 992.000000 1004.200012 999.345032 1184696
2022-08-01 990.000000 1031.000000 988.299988 1004.549988 999.693359 4647912
2022-07-29 973.700012 983.950012 953.000000 977.400024 972.674622 2941566
2022-07-28 977.000000 978.950012 964.200012 967.450012 962.772705 1043837
2022-07-27 956.900024 976.250000 951.799988 974.049988 969.340820 904733
2022-07-26 959.950012 962.000000 944.500000 955.700012 951.079529 988405
2022-07-25 976.000000 979.799988 955.049988 959.799988 955.159668 1024751
2022-07-22 973.500000 976.500000 967.500000 972.099976 967.400208 977238
1117.749878 is greater than 1069.997070
Recommendation : SELL
Press 1:For Main Menu
Press 0:To Exit Program
```