How to run Python in Tableau.
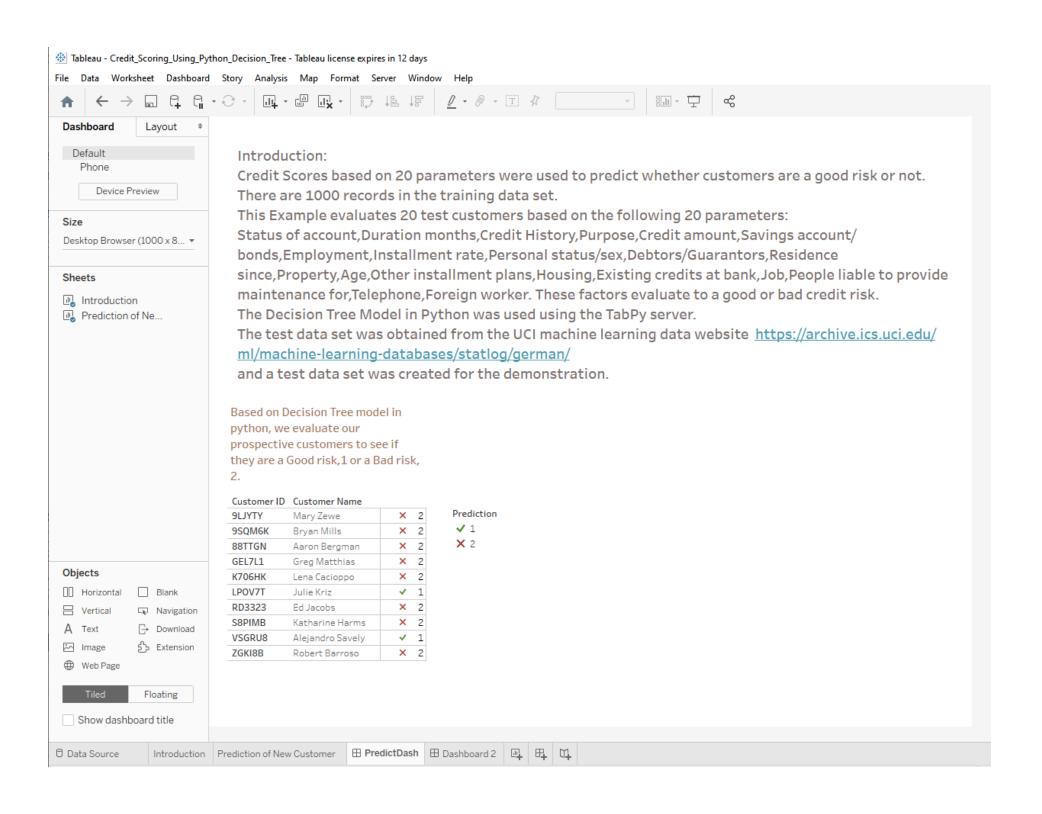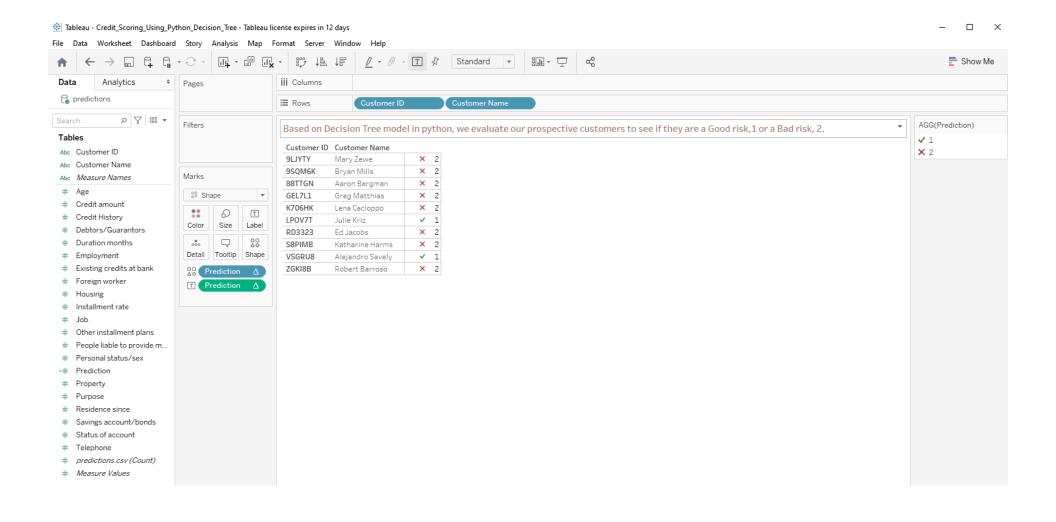
I used a decision tree to determine whether a perspective customer is a good risk or bad risk.

I used a data set downloaded from the UCI Machine Learning website

https://archive.ics.uci.edu/ml/machine-learning-databases/statlog/german/

Alpha values were converted to numeric equivalents prior to use. A test data set of 10 customers was created and evaluated against the credit data set.

Dashboard Layout

Default
Phone

Device Preview

Size

Desktop Browser (1000 x 8... ▾

Sheets

Introduction
Prediction of Ne...

Objects

Horizontal   Blank
Vertical   Navigation
Text   Download
Image   Extension
Web Page

Tiled   Floating

☐ Show dashboard title

Introduction:
Credit Scores based on 20 parameters were used to predict whether customers are a good risk or not.
There are 1000 records in the training data set.
This Example evaluates 20 test customers based on the following 20 parameters:
Status of account,Duration months,Credit History,Purpose,Credit amount,Savings account/
bonds,Employment,Installment rate,Personal status/sex,Debtors/Guarantors,Residence
since,Property,Age,Other installment plans,Housing,Existing credits at bank,Job,People liable to provide
maintenance for,Telephone,Foreign worker. These factors evaluate to a good or bad credit risk.
The Decision Tree Model in Python was used using the TabPy server.
The test data set was obtained from the UCI machine learning data website https://archive.ics.uci.edu/
ml/machine-learning-databases/statlog/german/
and a test data set was created for the demonstration.

Based on Decision Tree model in
python, we evaluate our
prospective customers to see if
they are a Good risk,1 or a Bad risk,
2.

Customer ID	Customer Name			Prediction
9LJYTY	Mary Zewe	✗	2	✓ 1
9SQM6K	Bryan Mills	✗	2	✗ 2
88TTGN	Aaron Bergman	✗	2	
GEL7L1	Greg Matthias	✗	2	
K706HK	Lena Cacioppo	✗	2	
LPOV7T	Julie Kriz	✓	1	
RD3323	Ed Jacobs	✗	2	
S8PIMB	Katharine Harms	✗	2	
VSGRU8	Alejandro Savely	✓	1	
ZGKI8B	Robert Barroso	✗	2	

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Standard

Show Me

Data **Analytics**

Pages

Columns

predictions

Rows Customer ID Customer Name

Search

Tables

Filters

Based on Decision Tree model in python, we evaluate our prospective customers to see if they are a Good risk,1 or a Bad risk, 2.

Abc Customer ID

Abc Customer Name

Abc Measure Names

Age

Credit amount

Credit History

Debtors/Guarantors

Duration months

Employment

Existing credits at bank

Foreign worker

Housing

Installment rate

Job

Other installment plans

People liable to provide m...

Personal status/sex

Prediction

Property

Purpose

Residence since

Savings account/bonds

Status of account

Telephone

predictions.csv (Count)

Measure Values

Marks

Shape

Color Size Label

Detail Tooltip Shape

Prediction △

Prediction △

Customer ID	Customer Name		
9LJYTY	Mary Zewe	✗	2
9SQM6K	Bryan Mills	✗	2
88TTGN	Aaron Bergman	✗	2
GEL7L1	Greg Matthias	✗	2
K706HK	Lena Cacioppo	✗	2
LPOV7T	Julie Kriz	✓	1
RD3323	Ed Jacobs	✗	2
S8PIMB	Katharine Harms	✗	2
VSGRU8	Alejandro Savely	✓	1
ZGKI8B	Robert Barroso	✗	2

AGG(Prediction)

✓ 1

✗ 2

Prediction   ✕

```
SCRIPT_INT("
import numpy as np
from sklearn.tree import DecisionTreeClassifier
import pandas as pd
data = pd.read_csv('C:/Users/bonnie/Downloads/German_Credit_Card_Data_Numeric.csv')
X=data.drop('Class',axis=1)
y=data['Class']
clf = DecisionTreeClassifier(random_state=2)
clf.fit(X,y)
X_pred=np.transpose(np.array([_arg1,_arg2,_arg3,_arg4,_arg5,_arg6,
_arg7,_arg8,_arg9,_arg10,_arg11,_arg12,_arg13, _arg14, _arg15,
_arg16, _arg17, _arg18, _arg19, _arg20]))

pred = clf.predict(X_pred)
return pred.tolist( )
",
SUM([Status of account]),SUM([Duration months]),SUM([Credit History]),
SUM([Purpose]),SUM([Credit amount]), SUM([Savings account/bonds]),
SUM([Employment]), SUM([Installment rate]), SUM([Personal status/sex]),
SUM([Debtors/Guarantors]), SUM([Residence since]), SUM([Property]),
SUM([Age]), SUM([Other installment plans]), SUM([Housing]),
SUM([Existing credits at bank]), SUM([Job]),
SUM([People liable to provide maintenance for]),
SUM([Telephone]), SUM([Foreign worker]))
```

Default Table Calculation

The calculation is valid.   2 Dependencies ▾   Apply   OK