wbs
WARWICK BUSINESS SCHOOL
THE UNIVERSITY OF WARWICK

For the Change Makers

Advanced Programming for Data Science

Week 3: Data Visualization
Information Systems and Management
Warwick Business School

Tableau Exercise

- This exercise is based on the Sample-EU Superstore dataset.
- The superstore plans to give back a portion of sales to the customers as a loyalty program. Please create a parameter reward_rate and visualize how the profit may change at different rates.
- adjusted_profit = profit – sales * reward_rate
- You are expected to use Python script for the calculation.

Python Code

```
adjustments = []
for i in range(len(Sales)):
    adjustment = Profit[i] – Sales[i] * rate
    adjustments.append(adjustment)
return adjustments
```

Tableau code

```
SCRIPT_REAL(
"
adjustments = []
for i in range(len(_arg1)):
    adjustment = _arg2[i] - _arg1[i]*_arg3[0]
    adjustments.append(adjustment)
return adjustments
",
SUM([Sales]),
SUM([Profit]),
[rate]
)
```

To use this script, make sure you first create a parameter named rate in Tableau. Then create a calculated field.

Exercise 1: Video game reviews

- The dataset contains video games released from 1995 to 2021, and professional and user reviews of those games.
    1. Please first try some explorations through visualization in Tableau, and what insights can you draw from the visualization?
    2. Can you create similar visualization in Python using Seaborn? You may use following statements to create the dataset from csv file.

```
import pandas as pd
Data = pd.read_csv('all_games.csv')
```

A sample visualization

```
import seaborn as sns
import pandas as pd
game = pd.read_csv('all_game.csv')
sns.relplot(x='year', y='user_review',
kind='line', hue='platform', data= game)
```