df = pd.read_csv('scores.csv') df.head(18) Team Penalty Cost Score Presentation Score Design Score Acceleration Score Skid Pad Score Autocross Score Endurance Score Efficiency Score Total Score Out[1]: Place Car Num 0 44 Univ of Illinois - Urbana Champaign 87.4 40.1 150 48.2 121.0 275.0 56.1 854.2 1 0 76.4 2 119 Villanova Univ 67.3 58.4 115 94.8 53.1 111.1 238.1 100.0 837.8 2 3 67 Univ of Florida 0 58.7 49.2 135 100.0 40.7 123.4 229.7 58.8 795.5 4 54 Kettering Univ 66.2 49.1 100 85.6 45.4 121.7 205.0 70.6 743.6 96 University of Alabama - Tuscaloosa 100 85.2 59.2 111.7 184.9 4 5 0 65.1 64.1 61.9 732.1 52 Purdue Univ - W. Lafayette 72.6 74.8 135 59.9 66.2 109.5 146.0 64.4 728.4 68 0 7 Louisiana State Univ 65.2 53.6 80 77.6 70.8 117.7 184.9 57.0 706.7 115 Univ of Akron 69.7 47.7 115 51.5 30.9 94.9 211.8 64.1 685.7 8 9 48 North Carolina State Univ - Raleigh 0 74.5 60.5 105 73.3 57.1 57.4 190.8 60.1 678.6 10 104 Univ of Connecticut 80.3 32.2 100 0.0 40.3 123.2 233.3 48.3 657.5 11 55 Oklahoma State Univ 0 40.7 80 76.5 33.3 90.4 173.0 86.8 656.0 10 75.2 11 12 65 Univ of Nebraska - Lincoln 77.2 40.4 100 50.2 44.0 100.6 189.3 46.8 648.6 106 Univ of Waterloo 0 77.4 100 60.9 23.0 12 13 72.7 99.9 134.3 73.0 641.1 13 14 83 Hope College 71.0 46.4 60 61.9 48.0 79.3 187.8 65.2 619.7 123.5 15 146 Technische Universitat Berlin 0 79.5 71.5 148 36.2 75.0 7.0 76.9 617.6 14 16 95 Saginaw Valley State Univ 52.0 50.6 70 68.9 45.9 103.2 173.7 46.5 610.8 15 80 187.5 43.2 577.3 17 63 0 40.3 67.0 55.9 8.0 95.4 16 Univ of Kansas - Lawrence Univ of North Florida 17 18 150 61.1 42.9 80 37.8 54.8 87.8 155.1 49.7 569.1 In [3]: df = df[df['Cost Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Cost Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Cost' fig.add_trace(go.Scatter(x=[569.1], y=[61.1], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Total vs Cost 100 California State Univ - Fullerton Univ of Central Florida Univ of Minnesota - Duluth 80 Universidad Autonoma Estado Mexico Northern Illinois Univ Texas Tech Univ Cost Score 60 York Collge of Pennsylvania Central Michigan Univ **Carleton University** Lawrence Technological Univ 40 Univ of British Columbia - Okanagan Univ of Hartford **Duke Univeristy** 20 Univ of Illinois - Chicago Lakehead University Virginia Tech Binghamton Univ 0-100 200 400 500 800 900 Total Score In [4]: df = pd.read_csv('scores.csv') df = df[df['Presentation Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Presentation Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total v fig.add_trace(go.Scatter(x=[569.1], y=[42.9], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) Total vs Presentation Ferris State University 70 **Howard Community College** Alabama A&M University 60 Clarkson University North Dakota State Univ Presentation Score Midwestern State Univ 50 CEFET - MG Syracuse Univ 40 Univ of Delaware Michigan State University 30 Washington State Univ California State Univ - Fullerton Universidad Metropolitana 20 Univ of Central Florida Penn State Univ - Harrisburg 10 Univ of Minnesota - Duluth Universidad Autonoma Estado Mexico 100 300 400 800 200 500 600 700 900 **Total Score** In [5]: df = pd.read_csv('scores.csv') df = df[df['Design Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Design Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Design Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Design Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Design Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Design Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Design Score', color = "Team", trendline_scope="overall", trendline_scop fig.add_trace(go.Scatter(x=[569.1], y=[80.0], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Total vs Design Team Midwestern State Univ 140 Washington State Univ California State Univ - Fullerton • Penn State Univ - Harrisburg 120 Univ of Minnesota - Duluth Universidad Autonoma Estado Mexico gn Score 100 Northern Illinois Univ Texas Tech Univ 80 Central Michigan Univ **Carleton University** Lawrence Technological Univ 60 Univ of British Columbia - Okanagan Univ of Hartford 40 **Duke Univeristy** Univ of Illinois - Chicago Lakehead University 200 400 500 600 100 300 700 800 900 **Total Score** In [6]: df = pd.read_csv('scores.csv') df = df[df['Acceleration Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Acceleration Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Total No. fig.add_trace(go.Scatter(x=[569.1], y=[37.8], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) Total vs Acceleration Team 100 Univ of Hartford South Dakota State Univ South Dakota School of Mines & Technology 80 Univ of Texas - Dallas Univ of North Dakota Acceleration Score Michigan Tech Univ 60 Oakland University Univ of Alberta Florida International Univ Univ of Maryland - College Park 40 US Naval Academy Univ of New Hampshire Embry-Riddle Aero Univ - Daytona Beach 20 Western Michigan Univ **Brown Univ** Univ of the Pacific Univ of Kentucky 300 400 800 200 500 600 700 Total Score In [7]: df = pd.read_csv('scores.csv') df = df[df['Skid Pad Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Skid Pad Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs Sl fig.add_trace(go.Scatter(x=[569.1], y=[54.8], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Total vs Skid Pad Univ of British Columbia - Okanagan Univ of Hartford South Dakota State Univ 60 South Dakota School of Mines & Technology Univ of Texas - Dallas 50 Univ of North Dakota Skid Pad Score Michigan Tech Univ • Oakland University 40 Florida International Univ Univ of Maryland - College Park 30 US Naval Academy Univ of New Hampshire 20 Embry-Riddle Aero Univ - Daytona Beach Western Michigan Univ 10 Univ of Minnesota - Twin Cities Brown Univ Univ of the Pacific 300 400 500 600 700 800 200 Total Score In [8]: df = pd.read_csv('scores.csv') df = df[df['Autocross Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Autocross Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs / fig.add_trace(go.Scatter(x=[569.1], y=[87.8], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig **Total vs Autocross** 140 Team Univ of Hartford Rensselaer Polytechnic Institute 120 Mississippi State Univ South Dakota State Univ 100 South Dakota School of Mines & Technology **Autocross Score** Univ of Texas - Dallas Univ of North Dakota 80 Michigan Tech Univ Oakland University 60 Univ of Alberta Florida International Univ Univ of Ottawa 40 Univ of Maryland - College Park **US Naval Academy** 20 Univ of New Hampshire • Embry-Riddle Aero Univ - Daytona Beach Western Michigan Univ 0 200 300 400 500 600 700 800 Total Score In [9]: df = pd.read_csv('scores.csv') df = df[df['Endurance Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Endurance Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs F fig.add_trace(go.Scatter(x=[569.1], y=[155.1], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Total vs Endurance Team Univ of Hartford 250 Univ of Illinois - Chicago Northwestern Univ Mississippi State Univ 200 South Dakota State Univ Endurance Score South Dakota School of Mines & Technology 150 Univ of North Dakota Michigan Tech Univ Oakland University 100 Univ of Wisconsin-Madison Univ of Alberta 50 Florida International Univ Univ of Ottawa Florida Atlantic University Univ of Maryland - College Park US Naval Academy Univ of New Hampshire -50 300 400 500 600 700 800 200 Total Score In [10]: df = pd.read_csv('scores finished endurance.csv') df = df[df['Endurance Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Total Score", y = 'Endurance Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Total vs & fig.add_trace(go.Scatter(x=[569.1], y=[155.1], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Total vs Endurance (finished endurnace) Team Univ of Hartford 250 Univ of Illinois - Chicago South Dakota State Univ Florida International Univ 200 Univ of Ottawa **Endurance Score** Florida Atlantic University **Brown Univ** 150 Univ of the Pacific Univ of Saskatchewan Clemson Univ 100 Univ of Pittsburgh - Pittsburgh Rose Hulman Institute of Tech Temple Univ 50 Penn State Univ - University Park Univ of North Carolina - Charlotte Wayne State Univ Kennesaw State University 500 200 300 400 600 700 800 **Total Score** In [11]: df = pd.read_csv('scores finished endurance.csv') df = df[df['Endurance Score'] != 0] df = df[df['Skid Pad Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Endurance Score", y = 'Skid Pad Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score', color = "Team", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score', color = "Team", trendline_scope="overall", t fig.add_trace(go.Scatter(x=[155.1], y=[54.8], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) Endurance vs Skidpad Team 70 Univ of Hartford South Dakota State Univ 60 Florida International Univ Brown Univ Univ of the Pacific 50 Univ of Saskatchewan Skid Pad Score Clemson Univ 40 Univ of Pittsburgh - Pittsburgh Rose Hulman Institute of Tech 30 Penn State Univ - University Park Univ of North Carolina - Charlotte 20 Wayne State Univ Kennesaw State University 10 Univ of South Florida Univ of Missouri Univ of North Florida 50 100 150 200 250 **Endurance Score** In [12]: df = pd.read_csv('scores finished endurance.csv') df = df[df['Endurance Score'] != 0] df = df[df['Acceleration Score'] != 0] df = df.dropna(subset = ['Total Score']) df = df.sort_values(by=['Total Score'], ascending=True) fig = px.scatter(df, x = "Endurance Score", y = 'Acceleration Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score", y = 'Acceleration Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score", y = 'Acceleration Score', color = "Team", trendline = "ols", trendline_scope="overall", trendline_color_override = 'white', title = 'Endurance Score', color = "Team", trendline = "ols", trendline = " fig.add_trace(go.Scatter(x=[155.1], y=[37.8], name="University of North Florida", marker_symbol = 'star-dot', marker_size = 11)) fig Endurance vs Acceleration Team 100 Univ of Hartford South Dakota State Univ Florida International Univ 80 Brown Univ Univ of the Pacific Acceleration Score Clemson Univ 60 Univ of Pittsburgh - Pittsburgh Rose Hulman Institute of Tech Temple Univ Penn State Univ - University Park Univ of North Carolina - Charlotte Kennesaw State University 20 Univ of South Florida Univ of Missouri Univ of North Florida • Univ of Kansas - Lawrence

50

100

150

Endurance Score

200

250

In [1]: **import** pandas **as** pd

import plotly.express as px

import plotly.graph_objects as go