

smtfeatures

July 22, 2019

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[1]: import numpy as np
import pandas as pd
import seaborn as sns

filename='output/smt/2019_07_22_smtfeatures.csv'

[16]: df = pd.read_csv(filename, delimiter=';')
print("Number of datapoints: %d" % df.shape[0])

# true / false to numeric values.
df['hasArrays'] = df['hasArrays'].replace({False: 0, True: 1})

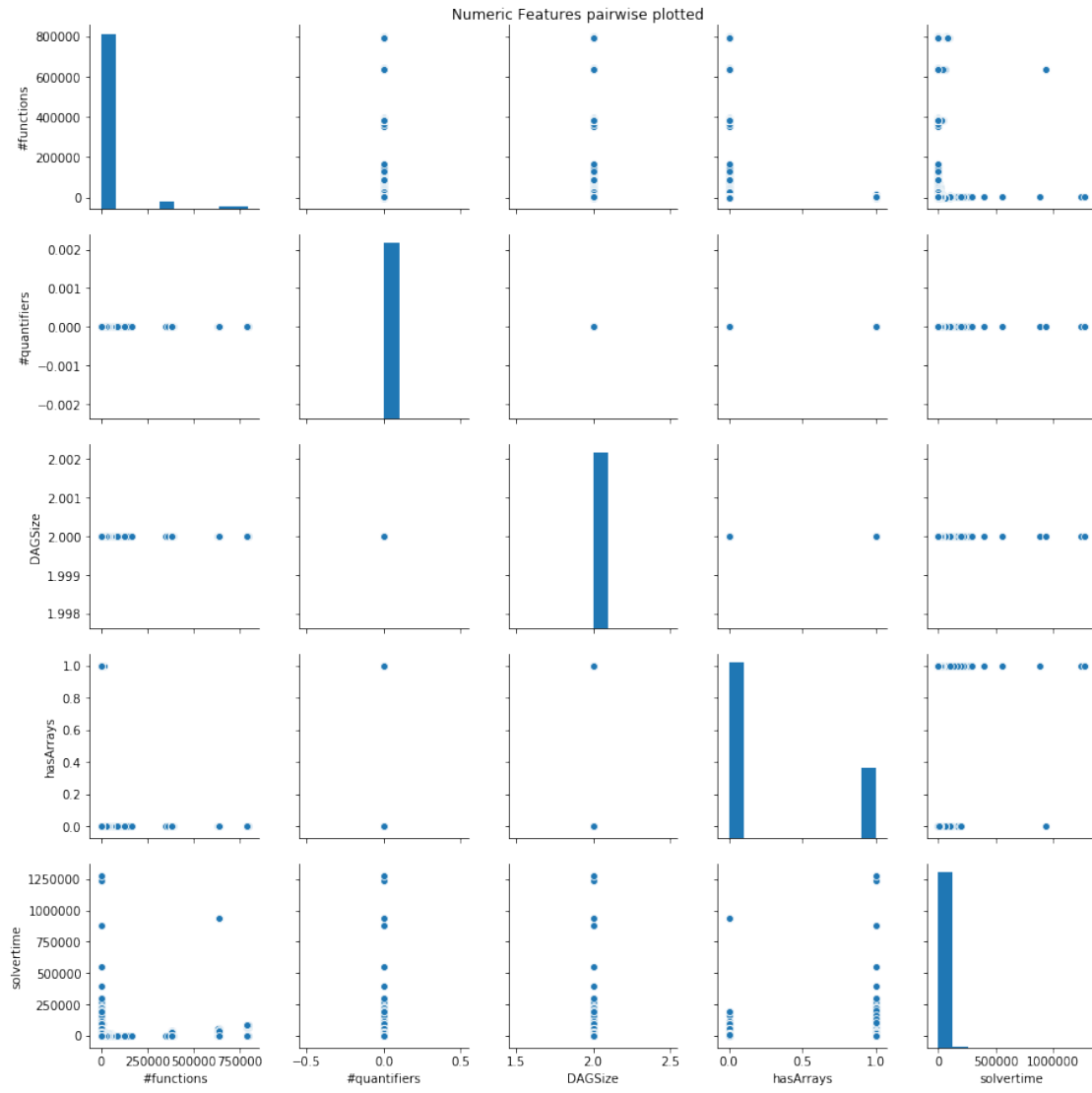
sorts = set()
for i,s in df.iterrows():
    # transform string representation of list to an actual list.
    sorts_array = s['sorts'].strip('[]').split(', ')
    # use tuples to have hashable
    df.at[i,'sorts'] = tuple(sorts_array)
    sorts.add(tuple(sorts_array))

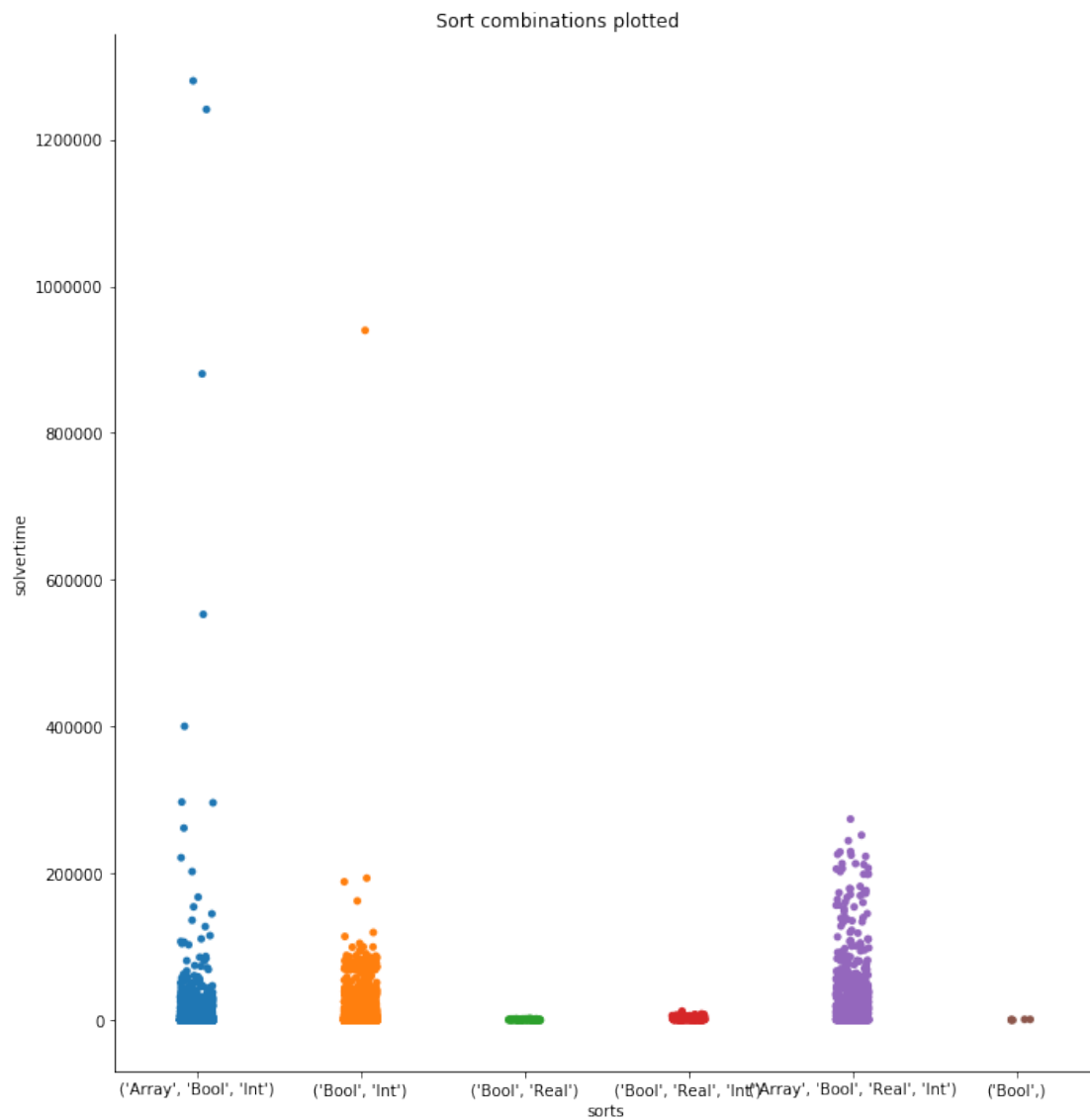
feature_names = ['#functions', '#quantifiers', 'DAGSize', 'hasArrays',
    ↪ 'solvertime']
df_filtered = df[feature_names]
pairplot = sns.pairplot(df_filtered)
pairplot.fig.suptitle("Numeric Features pairwise plotted", y=1)

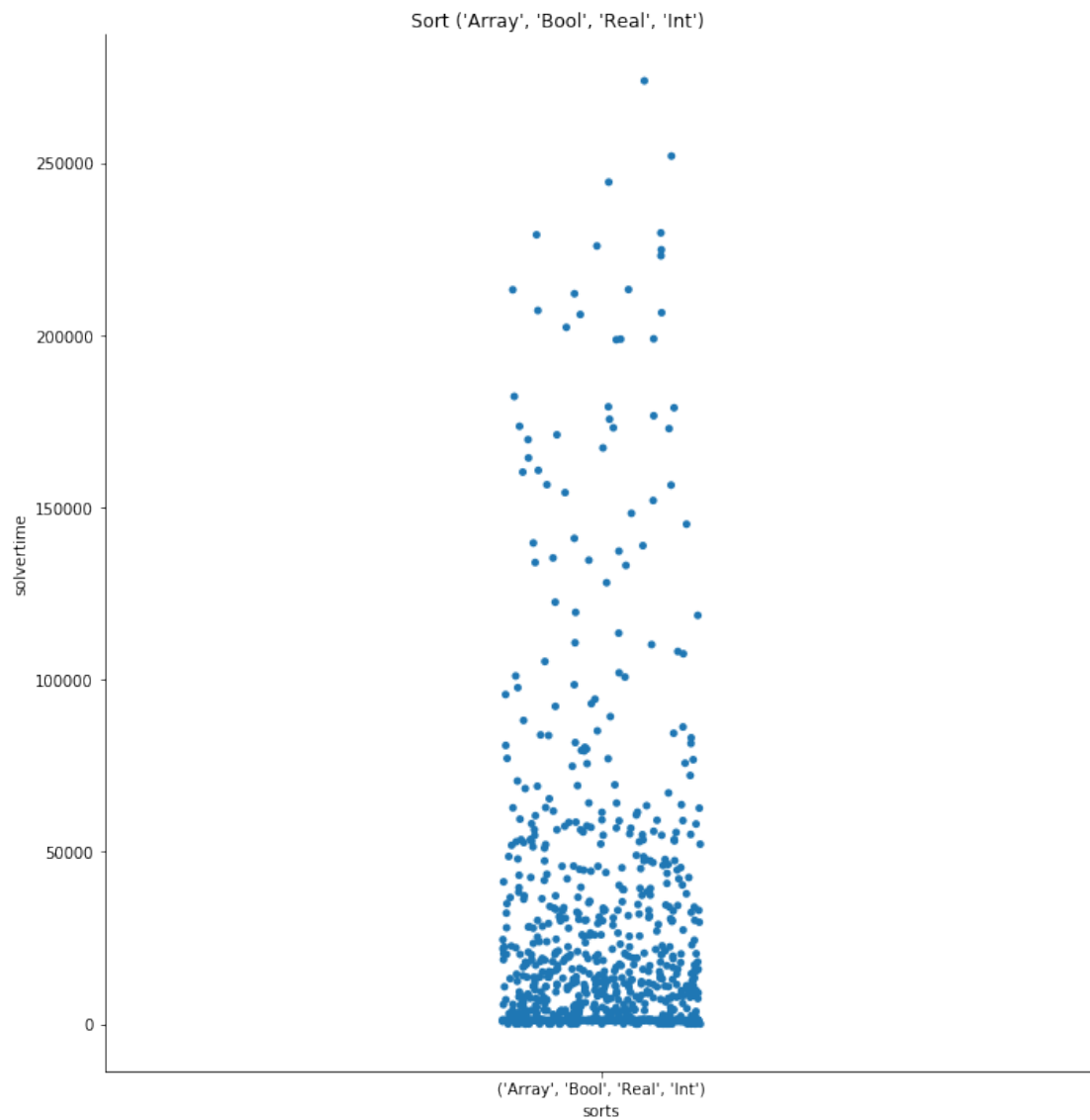
sorts_plot = sns.catplot(x="sorts", y="solvertime", data=df, height=10,
    ↪ aspect=1,);
sorts_plot.fig.suptitle("Sort combinations plotted", y=1)

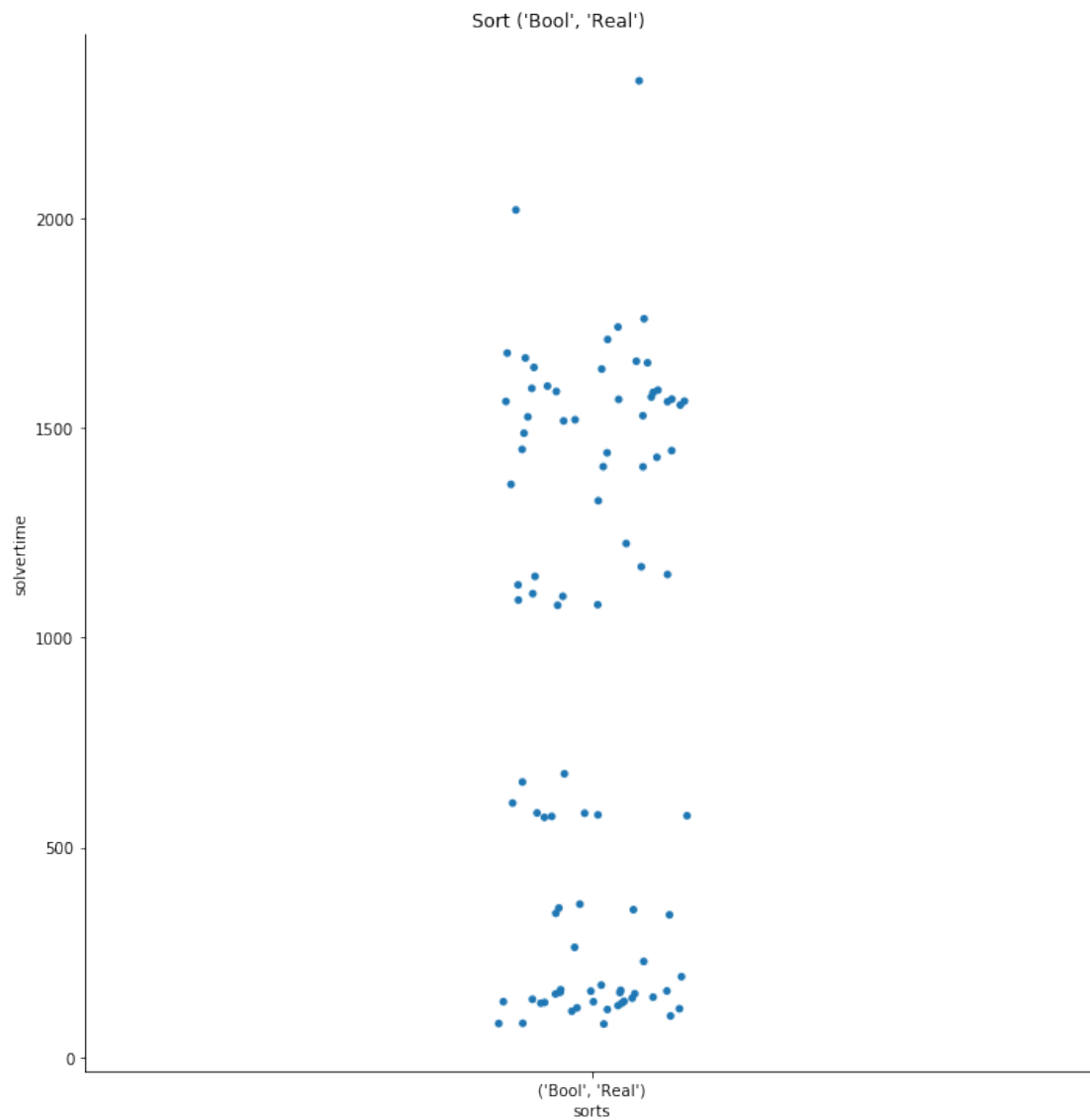
for sort in sorts:
    sort_only = df[df.sorts==sort]
    plot = sns.catplot(x="sorts", y="solvertime", data=sort_only, height=10,
    ↪ aspect=1,);
    plot.fig.suptitle("Sort %s" % str(sort) , y=1)
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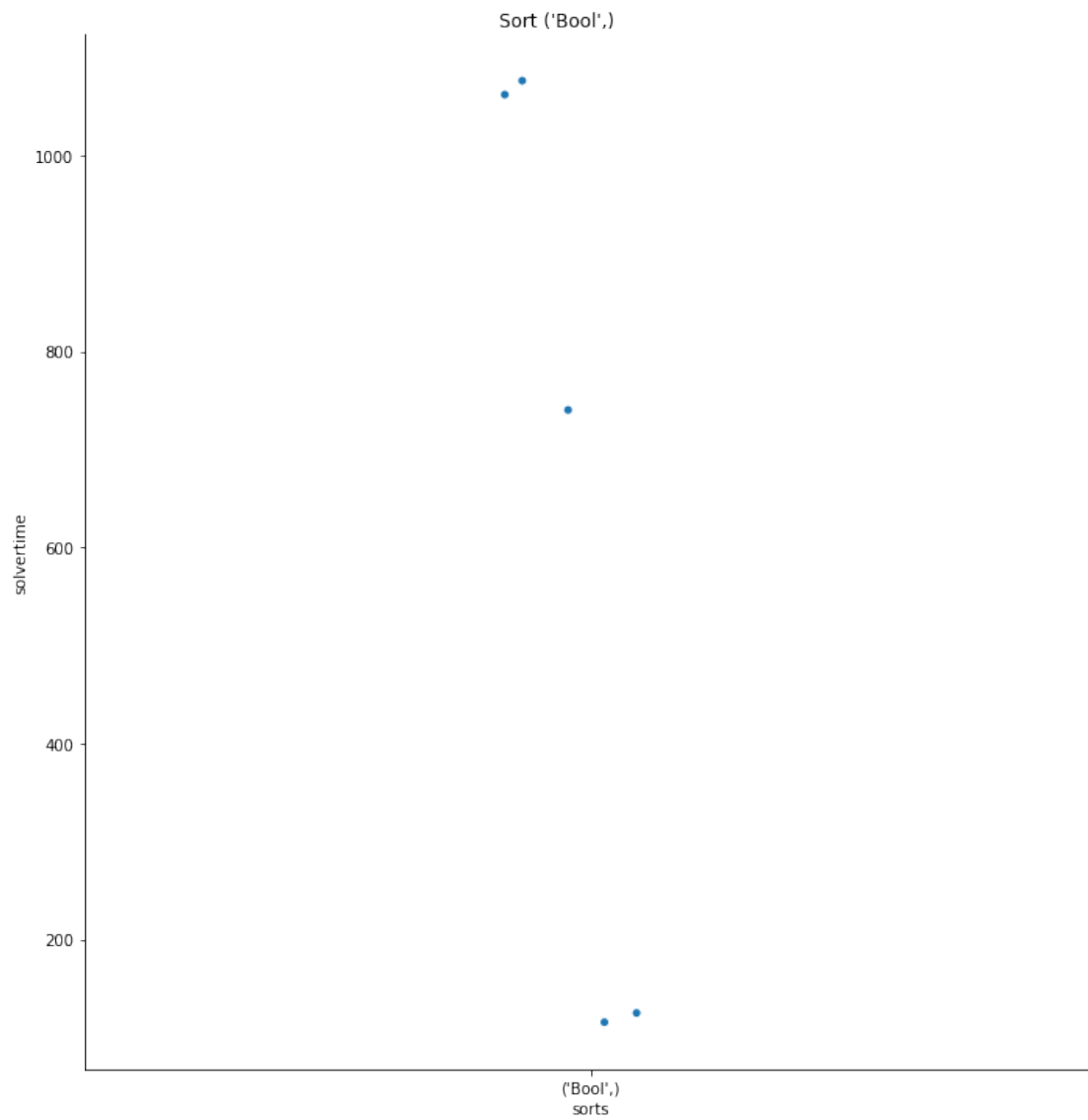
Number of datapoints: 13279

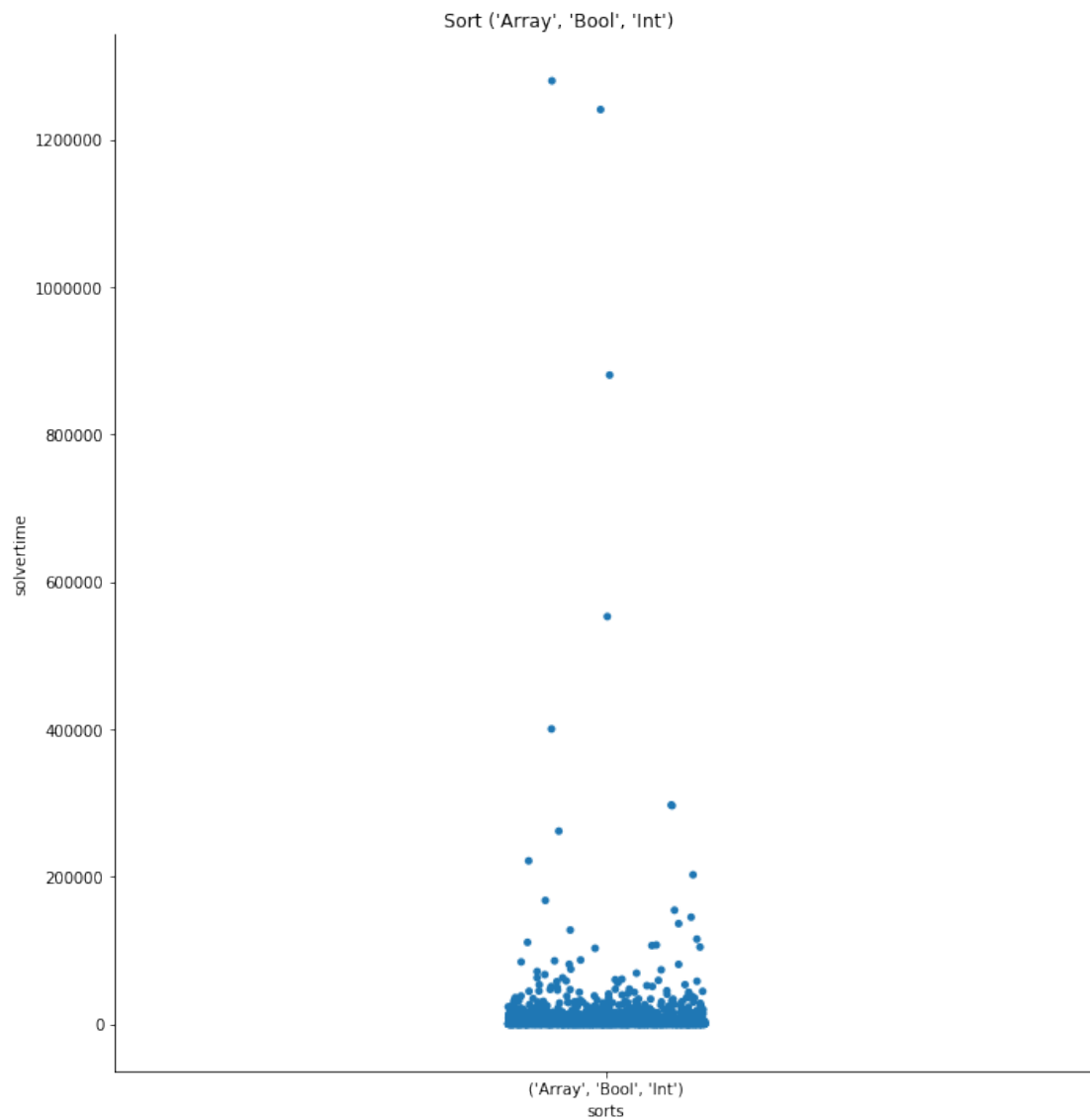


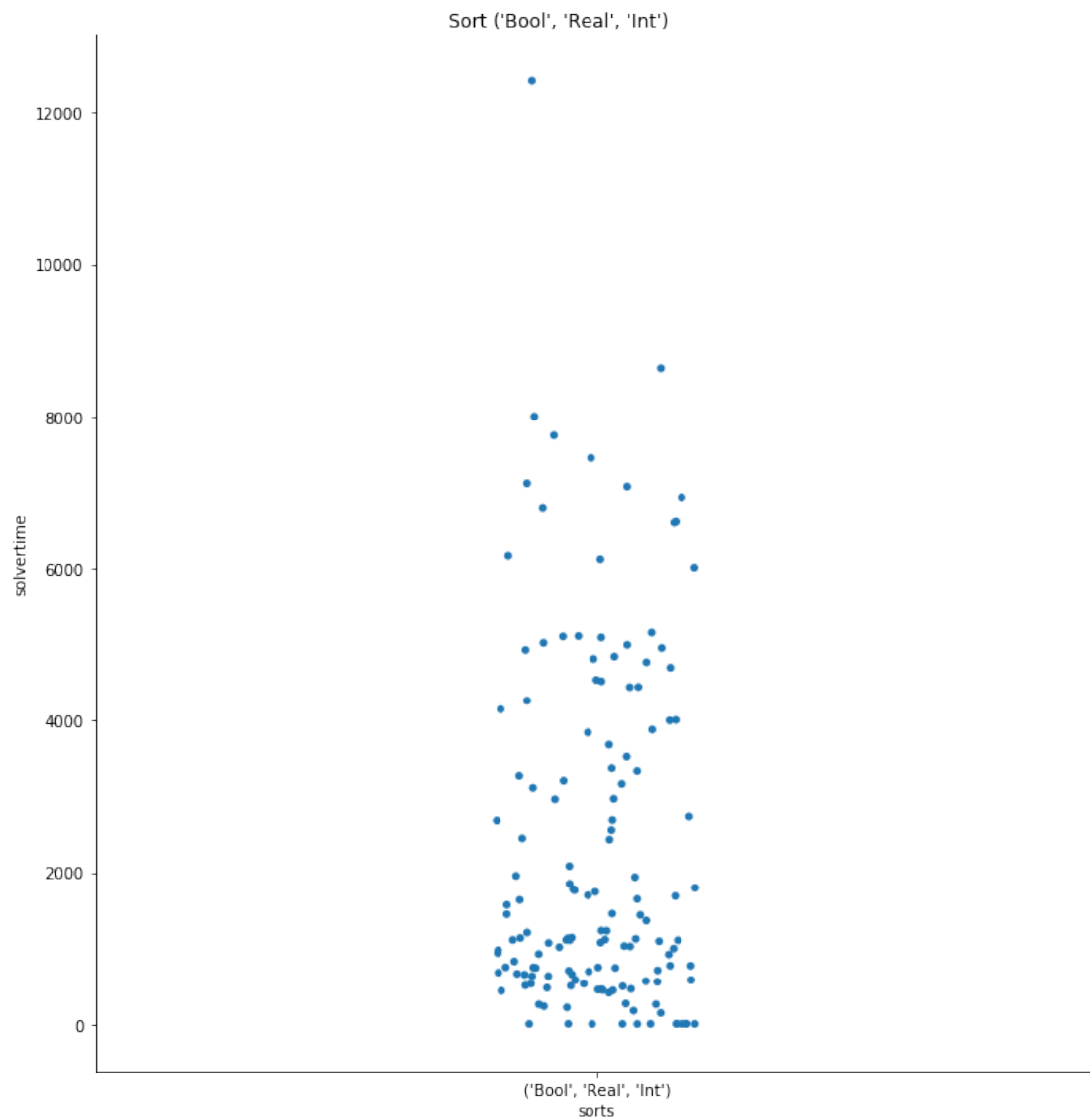


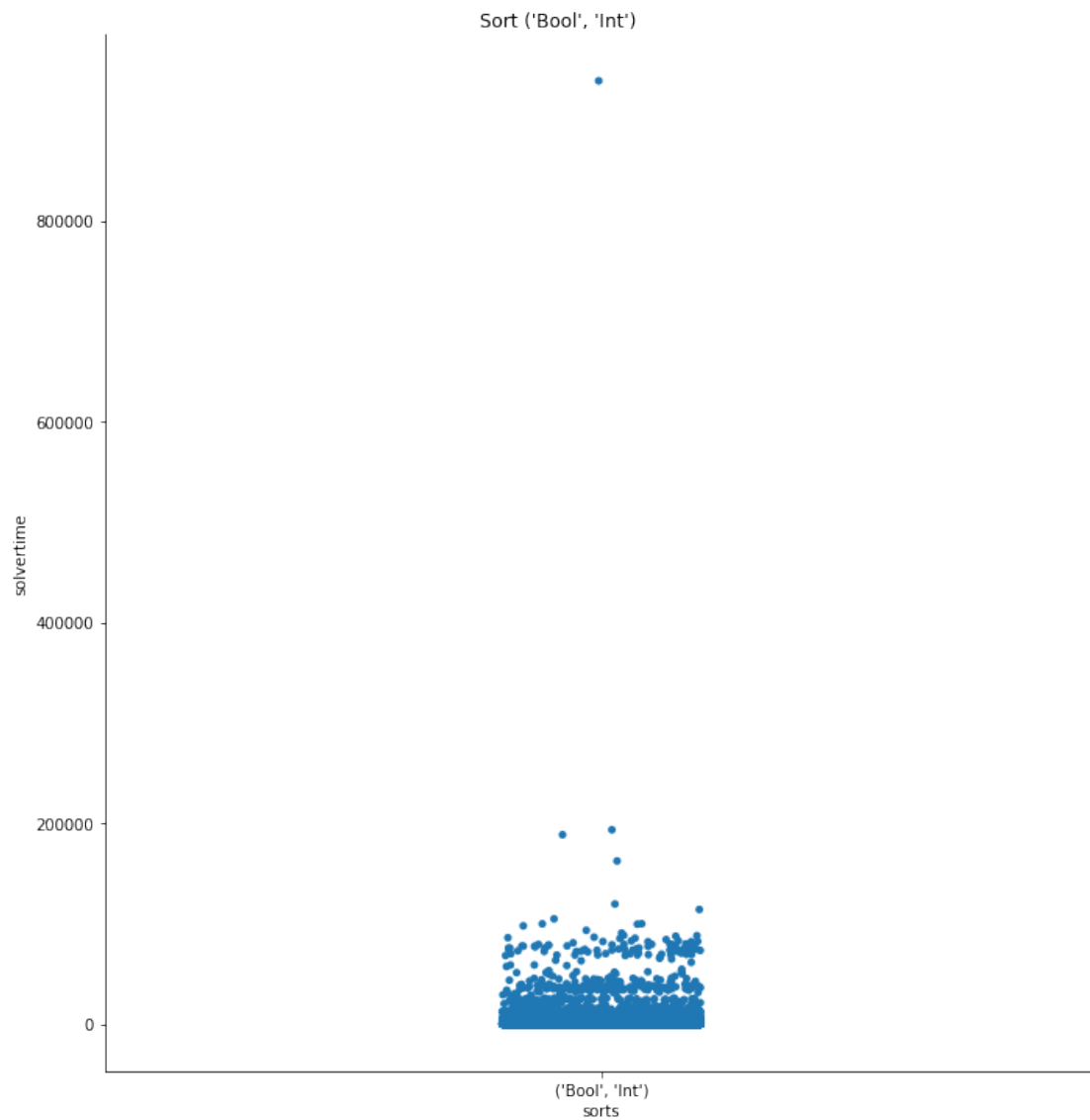












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