Summary of key findings:

Here we can see the top 10 highest grossing Rossmann stores in the data set. Store 262 in particular is doing visibly better than the other top 9 stores as well. It has a grand total of 19.5 million dollars in sales versus the 17 million dollars of the next best store over the entire time period in this data set. We can also see some sales trends from this graph. The most noticeable one being that there is always a spike in sales in December and it drops back down in January before picking up slowly in March. For some reason, store 262 is also an exception here as it is the only one that sees a spike in sales during the month of May. This suggests that an more in depth look into why store 262 is performing so well is necessary.

On the other hand, here we have the 10 worst performing stores. Missing data points or 0 sales indicates that the store was closed for renovations during that time period. Here we see similar trends in December to that of the top 10 grossing stores, but we also see bigger drops in May that we do not see in the top 10 grossing stores chart. If Rossmann was going to close stores, these would be the ones for consideration.

This chart shows the relationship between distance from closest competitor and total sales over the entire time period of the data set. Since we cannot see a clear pattern or relationship, it is not necessarily true that the further the distance of competitors are, the better the store will do. That is to say, distance from closest competitor does not directly correlate to higher sales.

I also ran some statistical tests (t-test and one-way ANOVA) to determine if there was a difference between the average sales of different types of stores, stores with different assortments and if in store promotions affected sales.

What I found was that all 3 of those factors were statistically significant in affecting daily sales. In particular, stores that ran promotions seemed to make on average $4000 more than those that did not. As for store type and assortments, I found that:

The average daily sales of type a stores is 5738.179710202728

The average daily sales of type b stores is 10058.837334175616

The average daily sales of type c stores is 5723.6292458345515

The average daily sales of type d stores is 5641.819243109884

And

The average daily sales of stores with assortment a is 5481.026095693513

The average daily sales of stores with assortment b is 8553.931999035447

The average daily sales of stores with assortment c is 6058.676566907757

**NOTE:** The high numbers of store type b and assortment b will require further investigation as the sample size for those were much smaller than that of the other store type and assortments. It could be that type and assortment b make the most sales but are also incredibly hard to build. See the following for the sample sizes.