**Summary**

My project is to show how house prices have changed from 1996 to 2012.

**Preparation**

I was expecting to find that house prices increased a lot over the years, by approximately double for lower priced houses and by 5x for higher priced houses.

I first got the data from the Data.gov1 website after trying to find a non-private unclean data set that could be manipulated. After finding this dataset, I converted it from an xls file to a csv file for ease of use. I then changed all the non-integer values into zeros to make the coding process easier.

**Process**

I first imported all the libraries and the slightly cleaned data set. I then summed up all the values per year to get the overall value of house prices across the UK. It included cheaper houses and more expensive houses, and therefore included a good range.

I then removed all the zero values so that it would not affect my graphs. I first graphed all the summed data together over all the years; however, it looks a bit chaotic so I would most likely not use it unless I had to. I then printed all the summed house prices and also the percentage changes from year to year, which can be found in the code. I then graphed each summed year on their own graphs, and then created a subplot of each year side by side with a y limit of 1.8 million, so as to compare them.

**Results**

It was found that house prices overall increased by almost 240% from 1996 to 2012. As seen from the graphs, the cheaper house prices almost tripled over the time period, and the expensive houses quintupled in price. The main graphs included in this show how over the time period, only around 2008 to 2009 did house prices fall; however, it was mainly only for the more expensive houses that the prices fell (approx. 5.3% decrease).

Overall, the subplot diagram is the most representative, as it shows the rise in prices the most clearly. You can clearly see how the house prices for the more expensive houses have increased the most, whilst although the house prices for the cheaper houses have rose, it is not by as large an amount.

1. Dataset - <https://www.data.gov.uk/dataset/cace4ffc-e6f0-4577-8a2c-3e6fd2881909/mean-house-prices-land-registry>

**The summary of the output of the code without graphs**

Total house prices across the UK (1996 to 2012):

26047850 29797619 32851215 36211934 41715490 46003623 53856134 62345858 70226392 74162079 79082976 85632137 85791248 81301567 87933864 86857194 88411032

House prices:

Average increase 1996 to 1997 is 14.395694846215715%

Average increase 1997 to 1998 is 10.247785234115518%

Average increase 1998 to 1999 is 10.230120864631644%

Average increase 1999 to 2000 is 15.198183007844873%

Average increase 1996 to 2000 is 60.14945571323545%

Average increase 2000 to 2001 is 10.279474123401164%

Average increase 2001 to 2002 is 17.069331691549596%

Average increase 2002 to 2003 is 15.763708549893312%

Average increase 2003 to 2004 is 12.640028147499391%

Average increase 2004 to 2005 is 5.604284782279573%

Average increase 2005 to 2006 is 6.6353277393963035%

Average increase 1996 to 2006 is 203.60653950326034%

Average increase 2006 to 2007 is 8.281379041678957%

Average increase 2007 to 2008 is 0.18580757829271505%

Average increase 2008 to 2009 is -5.23326225537598%

Average increase 2009 to 2010 is 8.157649655141332%

Average increase 2010 to 2011 is -1.22440883525828%

Average increase 2011 to 2012 is 1.788957170317982%

Average increase 1996 to 2012 is 239.41777152432925%