Problem 2

Positive means buy, negative means sell

	Trades rebalancing
AA	0.104679
BB	-0.078272
CC	0.025861
DD	0.046388
EE	-0.000499
FF	-0.005758
GG	-0.151755
HH	0.094594
II	-0.000870
JJ	-0.034367

The total return of the portfolio at the end is 0.9668%.

Day	Portfolio return
0	0.997284
1	0.990859
2	0.986116
3	1.010409
4	1.015976
5	1.005011
6	0.995919
7	0.991468
8	1.013101
9	1.018278
10	1.014029
11	1.007406
12	1.010307
13	1.015277
14	1.009668

Problem 3

Dep. Variable:	Price_barrick	**R-squared:**	0.476
Model:	OLS	**Adj. R-squared:**	0.472
Method:	Least Squares	**F-statistic:**	112.6
Date:	Mon, 14 Jun 2021	**Prob (F-statistic):**	1.60e-35
Time:	20:40:46	**Log-Likelihood:**	675.24
No. Observations:	251	**AIC:**	-1344.
Df Residuals:	248	**BIC:**	-1334.
Df Model:	2		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	-0.0007	0.001	-0.633	0.527	-0.003	0.001
Price_copper	0.1028	0.079	1.305	0.193	-0.052	0.258
Price_gold	1.4346	0.100	14.357	0.000	1.238	1.631

Omnibus:	33.617	**Durbin-Watson:**	2.184
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	108.120
Skew:	0.513	**Prob(JB):**	3.33e-24
Kurtosis:	6.047	**Cond. No.**	98.7

The only significant coefficient is the price of gold. In fact, it is highly significant. Copper price has no significant impact on barrick prices.

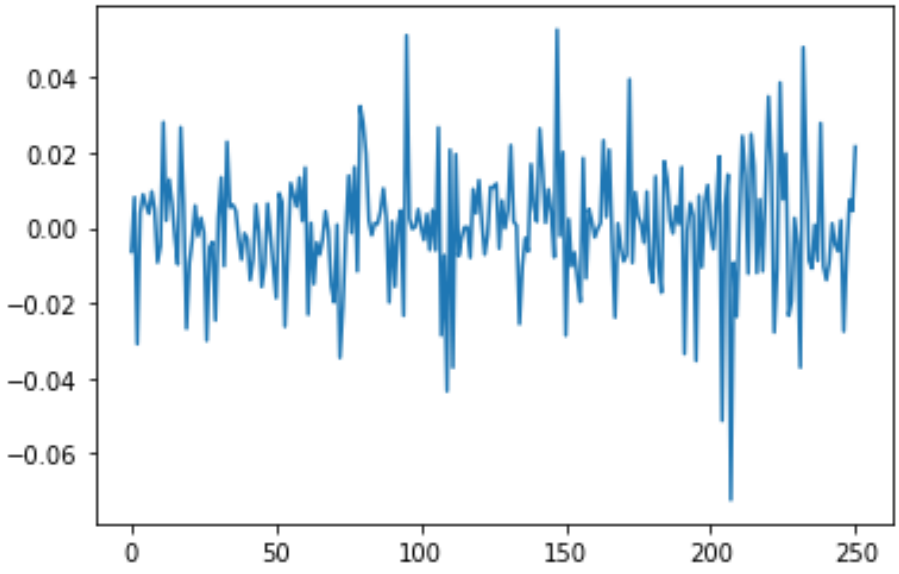

Figure 1: residuals

There does not seem to be serial correlation between residuals