FINANCIAL DATA ANALYSIS

Codecademy

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WHAT CAN WE FIND IN THIS DOCUMENT?

- Information about the chosen stocks.
- Key financial statistics about the stocks.
- Different portfolio options according with the profile investor

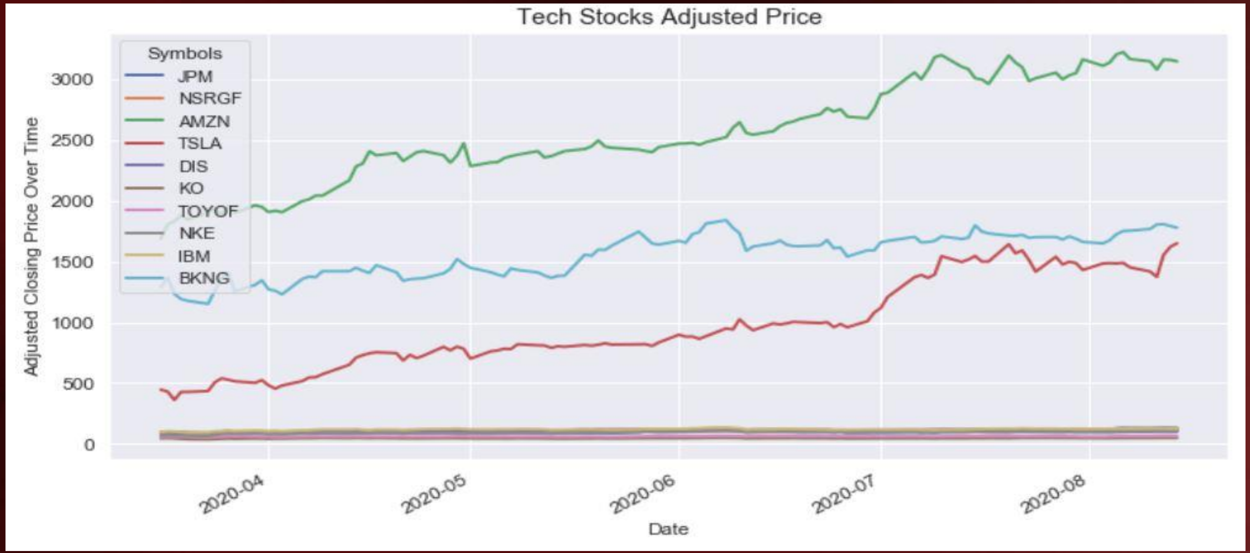
INFORMATION ABOUT THE CHOSEN COMPANIES.

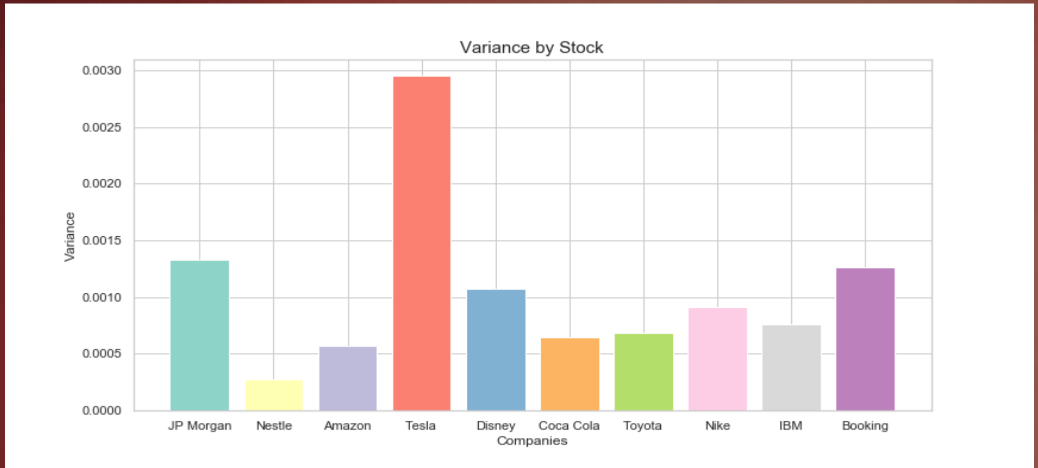
Company	Symbol	Description
Coca Cola	KO	Beverage company. The Company owns or licenses and markets non-alcoholic beverage brands, primarily sparkling beverages and a range of still beverages, such as waters, flavored waters and enhanced waters, juices and juice drinks, ready-to-drink teas and coffees, sports drinks, dairy and energy drinks.
Toyota	TOYOF	Japan-based company engaged in the automobile business, finance business and other businesses.
Nike	NKE	Design, development, marketing and selling of athletic footwear, apparel, equipment, accessories and services.
IBM	IBM	Technology company. The Company operates through five segments: Cognitive Solutions, Global Business Services (GBS), Technology Services & Cloud Platforms, Systems and Global Financing.
Booking	BKNG	Provider of travel and restaurant online reservation and related services.

Company	Symbol	Description
JPMorgan	JPM	Financial holding company. The Company is engaged in investment banking, financial services.
Nestle	NSRGF	Nutrition, health and wellness company.
Amazon	AMZN	Offers a range of products and services through its Websites. The Company's products include merchandise and content that it purchases for resale from vendors and those offered by third-party sellers. It also manufactures and sells electronic devices
Tesla	TSLA	Designs, develops, manufactures and sells fully electric vehicles, and energy storage systems, as well as installs, operates and maintains solar and energy storage products.
Disney	DIS	Worldwide entertainment company. The Company operates in four business segments: Media Networks, Parks Experiences and Products, Studio Entertainment, and Direct-To-Consumer and International.

KEY FINANCIAL STATISTICS

Price evolution, mean return and variance



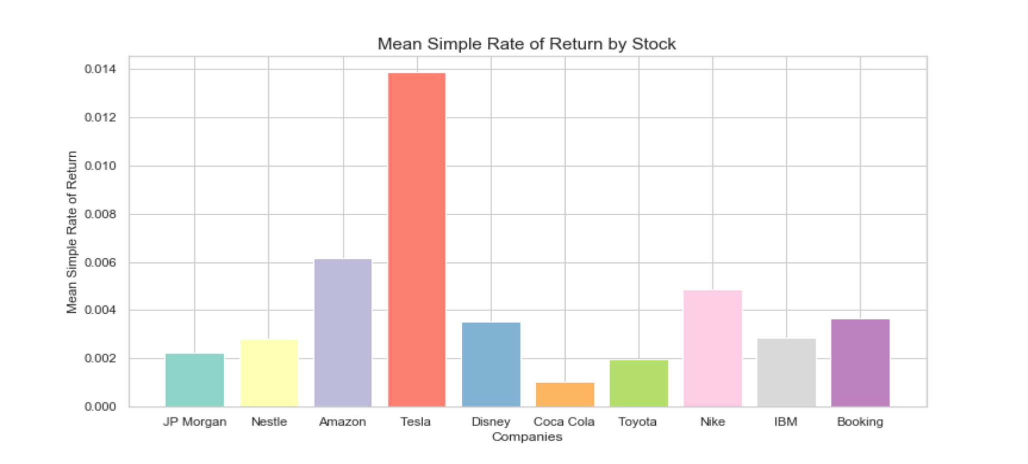


Analysis will be performed on the daily returns over a 5-year period:

- Start Date: 2020-03-15
- End Date: 2020-08-14

Iterations of portfolios analyzed: 5000

- Tesla is the riskiest asset in the portfolio because it has the highest std. In the other hand, Nestle is the less risky asset because it has the lowest std.
- Tesla has the higher mean simple return in the period. In the other hand, Coca Cola has the lowest mean simple return.



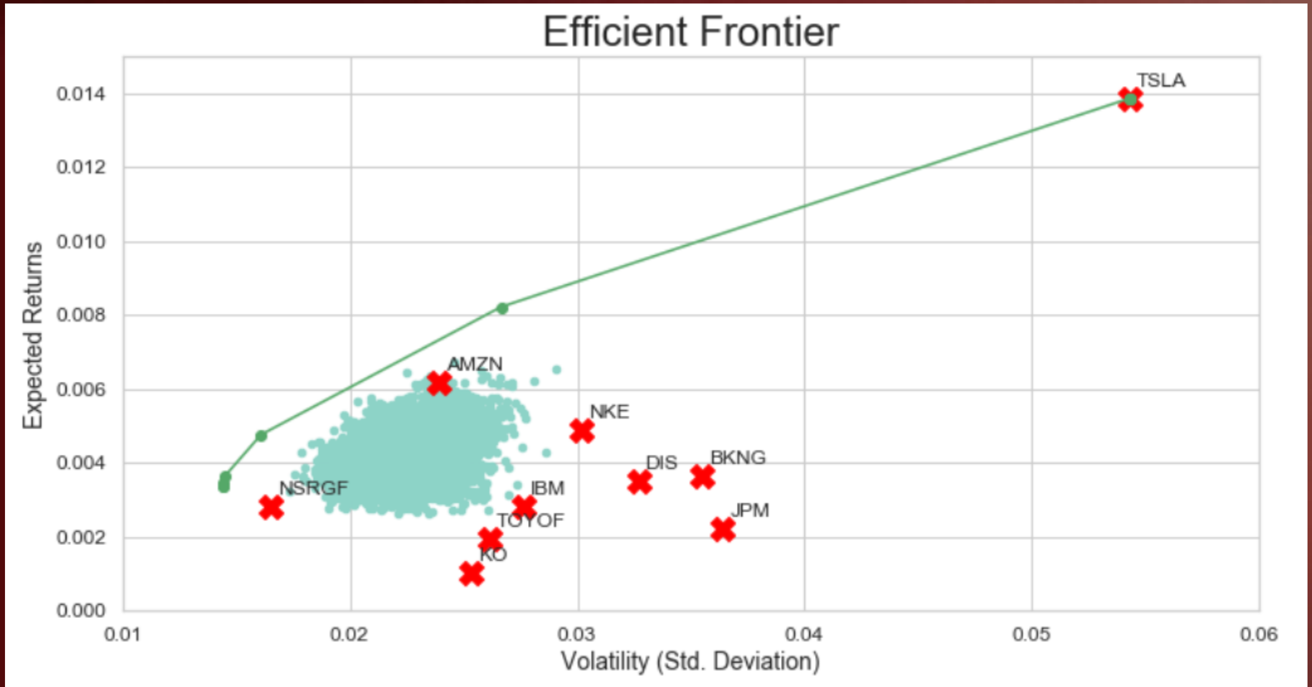
CORRELATÍON MATRIX

Symbols	JPM	NSRGF	AMZN	TSLA	DIS	KO	TOYOF	NKE	IBM	BKNG
Symbols										
JPM	1.000000	0.284950	0.109610	0.289025	0.715125	0.731122	0.449298	0.737735	0.789630	0.754283
NSRGF	0.284950	1.000000	0.238216	0.304437	0.291433	0.433035	0.385045	0.464068	0.361633	0.343430
AMZN	0.109610	0.238216	1.000000	0.429036	0.271064	0.155743	0.115087	0.244822	0.319590	0.228196
TSLA	0.289025	0.304437	0.429036	1.000000	0.404101	0.195264	0.163539	0.365308	0.266480	0.357369
DIS	0.715125	0.291433	0.271064	0.404101	1.000000	0.638057	0.281030	0.695774	0.660207	0.724138
KO	0.731122	0.433035	0.155743	0.195264	0.638057	1.000000	0.300492	0.697321	0.800516	0.701861
TOYOF	0.449298	0.385045	0.115087	0.163539	0.281030	0.300492	1.000000	0.481477	0.432033	0.322678
NKE	0.737735	0.464068	0.244822	0.365308	0.695774	0.697321	0.481477	1.000000	0.724415	0.652617
IBM	0.789630	0.361633	0.319590	0.266480	0.660207	0.800516	0.432033	0.724415	1.000000	0.685350
BKNG	0.754283	0.343430	0.228196	0.357369	0.724138	0.701861	0.322678	0.652617	0.685350	1.000000

It is possible to see that there is no negative correlation between the chosen assets. Therefore, if the price of one of the assets falls, it is probable that the others will accompany this movement.

EFFICIENT FRONTIER

A set of 5000 random portfolios were generated, along with the efficient frontier can be visualized in this plot.



OPTION N° 1: MINIMUM RISK

With a portfolio like the following, you would obtain a return of 0.3251% and a volatility of 0.017

Returns	Volatility	JPM Weight	NSRGF Weight	AMZN Weight	TSLA Weight	DIS Weight	KO Weight	TOYOF Weight	NKE Weight	IBM Weight	BKNG Weight
0.003251	0.017342	0.014805	0.252235	0.13248	0.033924	0.052341	0.213142	0.133876	0.030335	0.122838	0.014024

OPTION N° 2: MAXIMUM RETURN

With a portfolio like the following, you would obtain a return of 0.6717% and a volatility of 0.0246

Returns	Volatility	JPM Weight	NSRGF Weight	AMZN Weight	TSLA Weight	DIS Weight	KO Weight	TOYOF Weight	NKE Weight	IBM Weight	BKNG Weight
0.006717	0.02459	0.062968	0.16244	0.188875	0.264302	0.065255	0.011665	0.011028	0.153179	0.02153	0.05876

OPTION Nº 3: MEANS RISK & RETURN

We get two alternatives:

Alternative A: You would obtain a return of 0.6134% and a volatility of 0.02284

Returns	Volatility	JPM Weight	NSRGF Weight	AMZN Weight	TSLA Weight	DIS Weight	KO Weight	TOYOF Weight	NKE Weight	IBM Weight	BKNG Weight
0.006134	0.022845	0.047965	0.142944	0.241157	0.235219	0.11761	0.117816	0.025716	0.029563	0.016851	0.025159

Alternative B: You would obtain a return of 0.644% and a volatility of 0.02248

Returns	Volatility	JPM Weight	NSRGF Weight	AMZN Weight	TSLA Weight	DIS Weight	KO Weight	TOYOF Weight	NKE Weight	IBM Weight	BKNG Weight
0.00644	0.022484	0.034919	0.198304	0.232752	0.229341	0.000293	0.02811	0.016743	0.187185	0.068007	0.004346

Among them, I recommend creating a portfolio as alternative B, since it would generate a higher return at a slightly lower risk level.