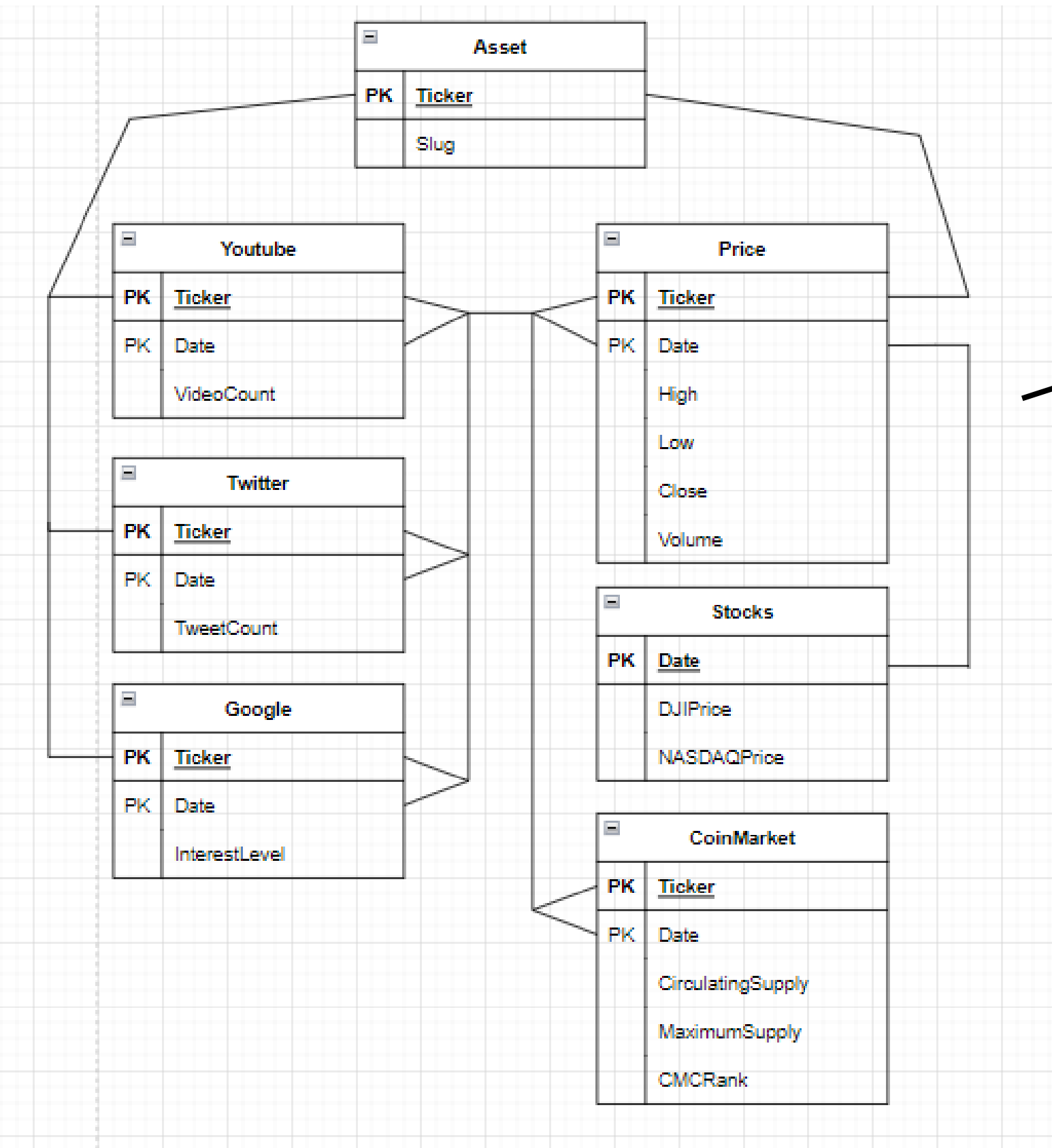


# IST 718 Final Project

## Cryptocurrency Price Prediction

# Data Collection

Database diagram



7 tables correspond with 7 python files

The screenshot shows a file explorer window with the following table of files:

Name	Date modified	Type	Size
Stocks.py	2/14/2022 10:31 PM	Python Source File	2 KB
Price.py	2/14/2022 10:26 PM	Python Source File	2 KB
Google.py	2/14/2022 10:00 PM	Python Source File	2 KB
Twitter.py	2/13/2022 2:31 PM	Python Source File	2 KB
Youtube.py	2/13/2022 12:58 PM	Python Source File	3 KB
CoinMarket.py	2/13/2022 11:38 AM	Python Source File	3 KB
Asset.py	2/13/2022 11:36 AM	Python Source File	4 KB
_nsis.py	11/10/2021 2:25 PM	Python Source File	12 KB
_system_path.py	11/10/2021 2:25 PM	Python Source File	8 KB
platform.py	9/16/2021 4:45 PM	Python Source File	40 KB

Daily Jupyter notebook runs -> updates csv files

The screenshot shows a file explorer window with the following table of files:


























Name	Status	Date modified	Type	Size
.Rproj.user		2/14/2022 11:15 PM	File folder	
ModulesFINAL		2/15/2022 8:17 PM	File folder	
ModulesSANDBOX		2/13/2022 11:39 AM	File folder	
ModulesTESTING		2/14/2022 10:15 PM	File folder	
IST718FinalProject.html		2/28/2022 7:14 PM	Chrome HTML Do...	1,180 KB
Database.drawio		2/28/2022 4:45 PM	DRAWIO File	4 KB
DataCollection.ipynb		2/27/2022 7:52 PM	Jupyter Source File	14 KB
Asset.csv		2/28/2022 7:26 PM	Microsoft Excel C...	3 KB
CoinMarket.csv		2/28/2022 7:38 PM	Microsoft Excel C...	100 KB
Google.csv		2/27/2022 7:44 PM	Microsoft Excel C...	5,324 KB
Price.csv		2/28/2022 7:28 PM	Microsoft Excel C...	14,068 KB
Stocks.csv		2/27/2022 7:52 PM	Microsoft Excel C...	571 KB
Twitter.csv		2/27/2022 7:40 PM	Microsoft Excel C...	45 KB
Youtube.csv		2/28/2022 7:45 PM	Microsoft Excel C...	272 KB
.Rhistory		2/23/2022 4:14 PM	R History Source F...	19 KB

# Cryptocurrencies


























158 cryptos on the Coinbase asset directory

## Asset Directory


























### O-D

-  Ox ZRX
-  1inch 1INCH
-  Aave AAVE
-  Alchemix ALCX
-  Alchemy Pay ACH
-  Adventure Gold AGLD
-  Algorand ALGO
-  Amp AMP
-  Ampleforth Governance Token FORTH
-  Ankr ANKR
-  API3 API3
-  ARPA Chain ARPA
-  Assemble Protocol ASM
-  Augur REP
-  Avalanche AVAX
-  Aventus AVT
-  Axie Infinity AXS
-  Badger DAO BADGER
-  Balancer BAL
-  Bancor Network Token BNT
-  Band Protocol BAND
-  BarnBridge BOND
-  Basic Attention Token BAT
-  Biconomy BICO
-  Bitcoin BTC

### E-P

-  Enjin Coin ENJ
-  Enzyme MLN
-  EOS EOS
-  Ethereum ETH
-  Ethereum Classic ETC
-  Ethereum Name Service ENS
-  Fetch.ai FET
-  Filecoin FIL
-  Function X FX
-  Gala GALA
-  Bitcoin GTC
-  Gods Unchained GODS
-  Goldfinch GFI
-  Golem GNT
-  GYEN GYEN
-  Harvest Finance FARM
-  Horizen ZEN
-  IDEX IDEX
-  iExec RLC RLC
-  Immutable X IMX
-  Internet Computer ICP
-  Inverse Finance INV
-  IoTeX IOTX
-  Jasmy JASMY
-  Keep Network KEEP

### P-Z

-  PlayDapp PLA
-  Pluton PLU
-  Polkadot DOT
-  Polkastarter POLS
-  Polygon MATIC
-  Polymath POLY
-  Polyswarm NCT
-  Powerledger POWR
-  Propy PRO
-  Quant QNT
-  Quantstamp QSP
-  QuickSwap QUICK
-  Radicle RAD
-  Rai Reflex Index RAI
-  Rally RLY
-  Rari Governance Token RGT
-  Rarible RARI
-  Ren REN
-  Render Token RNDR
-  Request REQ
-  Ribbon Finance RBN
-  Shapeshift FOX Token FOX
-  Shiba Inu SHIB
-  Shping Coin SHPING
-  SKALE SKL

# Metadata

With Calculated Fields

Field	Description	Table	Type
Ticker	The cryptocurrency ticker	Asset	String
Date	The calendar date	Price	Date
High	The high price point of the day	Price	Numeric
Low	The low price point of the day	Price	Numeric
Close	The closing price of the day	Price	Numeric
Volume	The trading volume of the day	Price	Numeric
Open	The opening price of the day	Price	Numeric
CirculatingSupply	The circulating supply of the crypto	CoinMarket	Numeric
MaximumSupply	The max supply of the crypto	CoinMarket	Numeric
CMCRank	Coin market cap rank	CoinMarket	Numeric
VideoCount	The number of Youtube videos over the last 24 hours	Youtube	Numeric
TweetCount	The number of tweets over the last 24 hours	Twitter	Numeric
InterestLevel	The relative interest level according to Google Trends	Google	Numeric
DJIPrice	The closing price of the DJI for the day	Stocks	Numeric
NASDAQPrice	The closing price of the NASDAQ for the day	Stocks	Numeric
Slug	The cryptocurrency slug	Asset	String
MaxDate	The most recent date of price data	Calculated	Date
Year	The year date part of the date	Calculated	Numeric
Month	The month date part of the date	Calculated	Numeric
Week	The week date part of the date	Calculated	Numeric
DayOfWeek	The day of the week day part of the date	Calculated	Numeric
YearMonth	Concatenation of the year and month	Calculated	Numeric
YearWeek	Concatenation of the year and week	Calculated	Numeric
LastDayMonth	Indicates the date is the last day of the month	Calculated	Boolean
LastDayWeek	Indicates the date is the last day of the week	Calculated	Boolean

# Finished Dataset

Ticker	Date	High	Low	Close	Volume	Open	CirculatingSupply	MaximumSupply	CMCRank	VideoCount	TweetCount	InterestLevel	DJIPrice	NASDAQPrice	Slug	MaxDate	Year	Month	Week	DayOfWeek	YearMonth	YearWeek	LastDayMonth	LastDayWeek
AAVE	2/20/2022	146.29	135.56	137.59	110695674	146.25	13522896	16000000	51	9076	266	34	34079.2	13548.07	Aave	2/28/2022	2022	2	7	7	202202	202207	0	1
ACH	2/20/2022	0.06	0.05	0.05	123103092	0.06	4058844046	10000000000	198	701	525	10	34079.2	13548.07	Alchemy Pay	2/28/2022	2022	2	7	7	202202	202207	0	1
ADA	2/20/2022	1	0.92	0.93	1429017666	1	33626509428	45000000000	7	17268	21038	21	34079.2	13548.07	Cardano	2/28/2022	2022	2	7	7	202202	202207	0	1
ALCX	2/20/2022	142.28	135.29	136.78	5893738	142.01	1121232	1562945	289	18	10	38	34079.2	13548.07	Alchemix	2/28/2022	2022	2	7	7	202202	202207	0	1
AMP	2/20/2022	0.03	0.03	0.03	10200381	0.03	42227702186	92547638199	70	27532	259	91	34079.2	13548.07	Amp	2/28/2022	2022	2	7	7	202202	202207	0	1
ANKR	2/20/2022	0.07	0.07	0.07	24703218	0.07	8162899378	10000000000	108	90	4013	8	34079.2	13548.07	Ankr	2/28/2022	2022	2	7	7	202202	202207	0	1
ASM	2/20/2022	0.05	0.05	0.05	1721318	0.05	1065954761	1500000000	518	21	125	2	34079.2	13548.07	Assemble Protocol	2/28/2022	2022	2	7	7	202202	202207	0	1
AUCTION	2/20/2022	14.07	12.93	12.97	1277625	14.05	2083956	10000000	683	432	2289	2	34079.2	13548.07	Bounce Token	2/28/2022	2022	2	7	7	202202	202207	0	1
AVT	2/20/2022	2.78	2.52	2.57	441135	2.74	6000000	10000000	831	65	4	57	34079.2	13548.07	Aventus	2/28/2022	2022	2	7	7	202202	202207	0	1
AXS	2/20/2022	54.89	49.86	52.34	300682184	54.87	60907500	270000000	41	13126	1417	14	34079.2	13548.07	Axie Infinity	2/28/2022	2022	2	7	7	202202	202207	0	1
BADGER	2/20/2022	9.51	8.69	8.8	6077449	9.51	12537901	21000000	345	7	54	7	34079.2	13548.07	Badger DAO	2/28/2022	2022	2	7	7	202202	202207	0	1
BAL	2/20/2022	13.08	12.36	12.53	12877576	13.08	6943831	100000000	398	1161	114	80	34079.2	13548.07	Balancer	2/28/2022	2022	2	7	7	202202	202207	0	1
BAT	2/20/2022	0.76	0.7	0.71	92763848	0.76	1495585511	1500000000	77	203	325	19	34079.2	13548.07	Basic Attention Token	2/28/2022	2022	2	7	7	202202	202207	0	1
BCH	2/20/2022	312.18	298.14	303.14	3986038360	312.03	18988800	21000000	26	15862	931	2	34079.2	13548.07	Bitcoin Cash	2/28/2022	2022	2	7	7	202202	202207	0	1

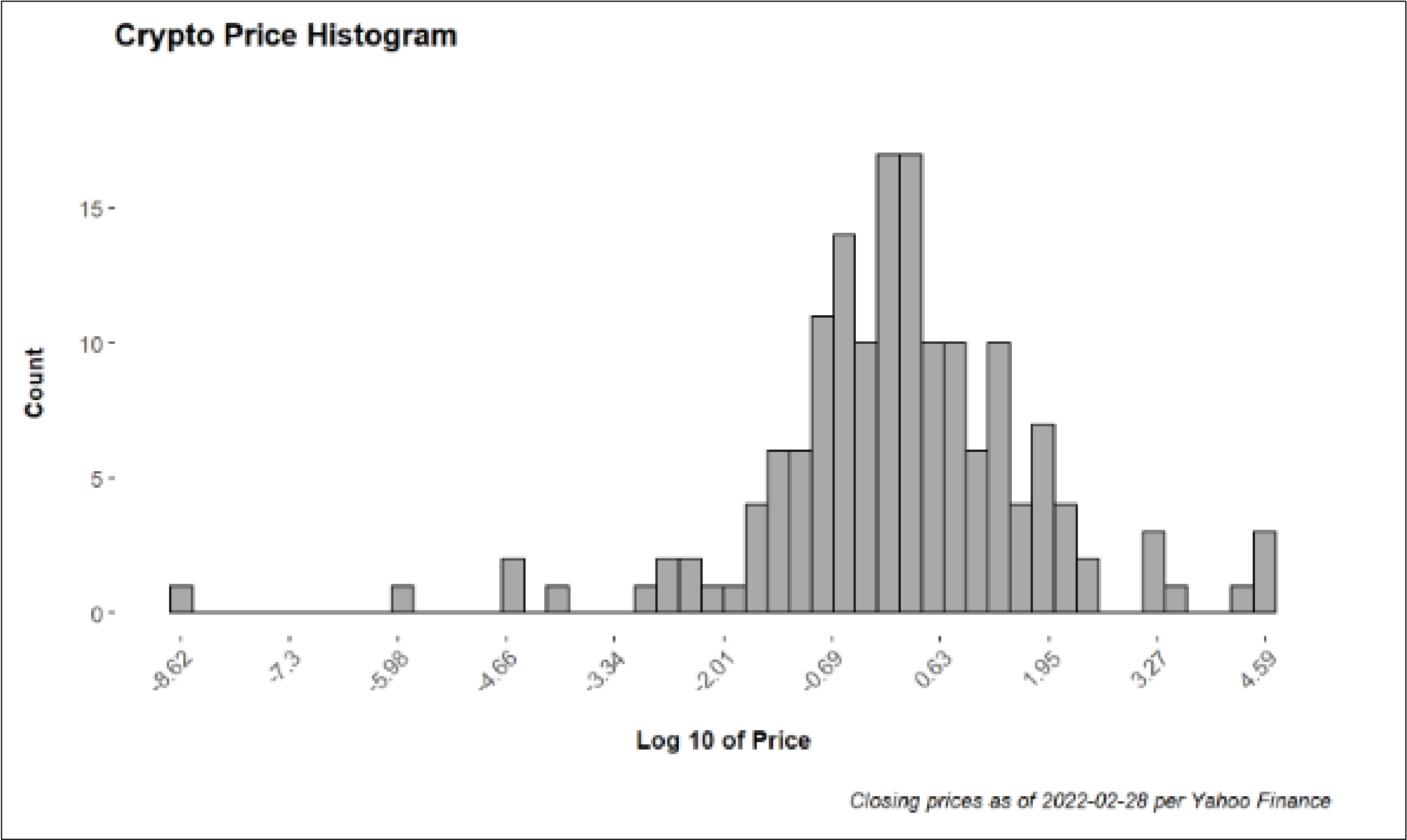
## Top 10 MOST Expensive Cryptocurrencies

Ticker <chr>	Slug <chr>	Price <chr>
TBTC	tBTC	\$38462
BTC	Bitcoin	\$37622
WBTC	Wrapped Bitcoin	\$37547
YFI	Yearn Finance	\$19257
ETH	Ethereum	\$2608
YFII	DFI.Money	\$1859
MKR	Maker	\$1782
MASK	Mask Network	\$1608
INV	Inverse Finance	\$303
BCH	Bitcoin Cash	\$302

## Top 10 LEAST Expensive Cryptocurrencies

Ticker <chr>	Slug <chr>	Price <chr>
GNT	Golem	\$0.000000002424369
COMP	Compound	\$0.000000999999997
PLA	PlayDapp	\$0.000022481903216
SHIB	Shiba Inu	\$0.000022944055672
UNI	Uniswap	\$0.000075202013250
SUPER	SuperFarm	\$0.001128030125983
GTC	Gitcoin	\$0.001809795154259
GFI	Goldfinch	\$0.002257524058223
MIR	Mirror Protocol	\$0.003006882034242
SPELL	Spell Token	\$0.004010172560811

# Crypto Price Histogram



## Observations

- The price is skewed so log 10 transformation is applied
- Data looks normally distributed after applying the transformation