CRYPTOCURRENCY API In [10]: from requests import Request, Session from requests.exceptions import ConnectionError, Timeout, TooMan import json import getpass api = getpass.getpass(prompt = "Enter your API: ") url = 'https://pro-api.coinmarketcap.com/v1/cryptocurrency/listi #url = 'https://pro-api.coinmarketcap.com' parameters = { 'start':'1' 'limit':'15' 'convert':'USD' $headers = {$ 'Accepts': 'application/json', 'X-CMC_PRO_API_KEY': api, } session = Session() session.headers.update(headers) try: response = session.get(url, params=parameters) data = json.loads(response.text) print(data) except (ConnectionError, Timeout, TooManyRedirects) as e: print(e) Enter your API: {'status': {'timestamp': '2024-07-19T16:16:15.749Z', 'error_cod e': 0, 'error_message': None, 'elapsed': 23, 'credit_count': 1, 'notice': None, 'total_count': 10001}, 'data': [{'id': 1, 'nam e': 'Bitcoin', 'symbol': 'BTC', 'slug': 'bitcoin', 'num_market_p airs': 11608, 'date_added': '2010-07-13T00:00:00.000Z', 'tags': ['mineable', 'pow', 'sha-256', 'store-of-value', 'state-channe l', 'coinbase-ventures-portfolio', 'three-arrows-capital-portfolio', 'polychain-capital-portfolio', 'binance-labs-portfolio', 'b lockchain-capital-portfolio', 'boostvc-portfolio', 'cms-holdings-portfolio', 'dcg-portfolio', 'dragonfly-capital-portfolio', 'el ectric-capital-portfolio', 'fabric-ventures-portfolio', 'framewo rk-ventures-portfolio', 'galaxy-digital-portfolio', 'huobi-capit al-portfolio', 'alameda-research-portfolio', 'a16z-portfolio', '1confirmation-portfolio', 'winklevoss-capital-portfolio', 'usvportfolio', 'placeholder-ventures-portfolio', 'pantera-capital-p ortfolio', 'multicoin-capital-portfolio', 'paradigm-portfolio', 'bitcoin-ecosystem', 'ftx-bankruptcy-estate'], 'max_supply': 210 00000, 'circulating_supply': 19727806, 'total_supply': 19727806, 'infinite_supply': False, 'platform': None, 'cmc_rank': 1, 'self_reported_circulating_supply': None, 'self_reported_market_cap': None, 'tvl_ratio': None, 'last_updated': '2024-07-19T16:15:00.00 OZ', 'quote': {'USD': {'price': 66167.36540792002, 'volume_24h': 31238461983.87557, 'volume_change_24h': 9.7436, 'percent_change_ 1h': 0.90172266, 'percent_change_24h': 3.90465924, 'percent_chan ge_7d': 13.97073455, 'percent_change_30d': 1.991233, 'percent_ch ange_60d': -2.02120754, 'percent_change_90d': 2.3665242, 'market _cap': 1305336948298.5571, 'market_cap_dominance': 54.1629, 'ful ly_diluted_market_cap': 1389514673566.32, 'tvl': None, 'last_upd ated': '2024-07-19T16:15:00.000Z'}}}, {'id': 1027, 'name': 'Ethe reum', 'symbol': 'ETH', 'slug': 'ethereum', 'num_market_pairs': 9150, 'date_added': '2015-08-07T00:00:00.000Z', 'tags': ['pos', 'smart-contracts', 'ethereum-ecosystem', 'coinbase-ventures-port folio', 'three-arrows-capital-portfolio', 'polychain-capital-por tfolio', 'binance-labs-portfolio', 'blockchain-capital-portfoli o', 'boostvc-portfolio', 'cms-holdings-portfolio', 'dcg-portfoli 'dragonfly-capital-portfolio', 'electric-capital-portfolio', 'fabric-ventures-portfolio', 'framework-ventures-portfolio', 'ha shkey-capital-portfolio', 'kenetic-capital-portfolio', 'huobi-ca pital-portfolio', 'alameda-research-portfolio', 'a16z-portfoli o', '1confirmation-portfolio', 'winklevoss-capital-portfolio', 'usv-portfolio', 'placeholder-ventures-portfolio', 'pantera-capi tal-portfolio', 'multicoin-capital-portfolio', 'paradigm-portfol io', 'injective-ecosystem', 'layer-1', 'ftx-bankruptcy-estate'], 'max_supply': None, 'circulating_supply': 120224183.73336516, 't otal_supply': 120224183.73336516, 'infinite_supply': True, 'plat form': None, 'cmc_rank': 2, 'self_reported_circulating_supply': None, 'self_reported_market_cap': None, 'tvl_ratio': None, 'last _updated': '2024-07-19T16:14:00.000Z', 'quote': {'USD': {'pric e': 3482.7853828554335, 'volume_24h': 15808935081.10915, 'volume change_24h': 2.43949049, 'percent_change_7d': 11.53658115, 'perc ent_change_30d': -1.26847541, 'percent_change_60d': 11.67776904, 'percent_change_90d': 12.34514222, 'market_cap': 418715029772.29 016, 'market_cap_dominance': 17.3754, 'fully_diluted_market_ca p': 418715029772.29, 'tvl': None, 'last_updated': '2024-07-19T1 6:14:00.000Z'}}}, {'id': 825, 'name': 'Tether USDt', 'symbol': 'USDT', 'slug': 'tether', 'num_market_pairs': 92111, 'date_adde d': '2015-02-25T00:00:00.000Z', 'tags': ['stablecoin', 'asset-ba cked-stablecoin', 'avalanche-ecosystem', 'solana-ecosystem', 'ar bitrum-ecosytem', 'moonriver-ecosystem', 'injective-ecosystem', 'bbb abain', 'und stablecoin', 'antimiom accessite 'fist atti-'bnb-chain', 'usd-stablecoin', 'optimism-ecosystem', 'fiat-stablecoin'], 'max_supply': None, 'circulating_supply': 113696229620. 9447, 'total_supply': 117072162581.67705, 'platform': {'id': 102 7, 'name': 'Ethereum', 'symbol': 'ETH', 'slug': 'ethereum', 'tok en_address': '0xdac17f958d2ee523a2206206994597c13d831ec7'}, 'inf inite_supply': True, 'cmc_rank': 3, 'self_reported_circulating_s
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Enter your API: API Runner successfully completed! -----------**KeyboardInterrupt** Traceback (most recent call last) Cell In[34], line 8 api_runner() 7 print('API Runner successfully completed!') ----> 8 sleep(60) 9 exit() KeyboardInterrupt: df4 = pd.read_csv(r'C:\Users\NAOMI KOYANA\Downloads\API.csv') In [35]: df4 **Unnamed:** Out[35]: id name symbol slug num_market_pairs dat 0 0.0 1 Bitcoin BTC bitcoin 11608 13T00:00 1.0 1027 Ethereum 9150 1 FTH ethereum 07T00:00 Tether 2 2.0 825 **USDT** tether 92111 25T00:00 **USDt** 2194 25T00:00 3 3.0 1839 BNB bnb **BNB** 4 4.0 5426 Solana SOL solana 707 10T00:00 161 85.0 1958 **TRON TRX** tron 1001 13T00:00 162 86.0 5805 Avalanche AVAX avalanche 754 13T00:00 163 87.0 5994 Shiba Inu SHIB shiba-inu 847 01T00:00 polkadot-88.0 6636 Polkadot DOT 19T00:00 new 165 89.0 1975 Chainlink LINK chainlink 1817 20T00:00 166 rows × 38 columns pd.set_option('display.float_format', lambda x:'%.5f' % x) In [37]: name symbol slug num_market_pairs date_added Out[37]: 2010-07-Bitcoin **BTC** bitcoin 13T00:00:00.000Z 256 valı [p 1027 Ethereum ETH ethereum 9150 07T00:00:00.000Z е [5 Tether 2015-02-92111 825 **USDT** tether 25T00:00:00.000Z **USDt** ć [ma 2017-07-CI 1839 **BNB BNB** 25T00:00:00.000Z pa 2020-04-707 5426 Solana SOL solana 10T00:00:00.000Z 2017-09-1958 **TRON** TRX 1001 tron 13T00:00:00.000Z е laye [d 2020-07-5805 Avalanche AVAX avalanche 754 2020-08-847 **87** 5994 Shiba Inu SHIB shiba-inu 01T00:00:00.000Z polkadot-2020-08-6636 88 Polkadot DOT 794 19T00:00:00.000Z de 2017-09-89 1975 1817 Chainlink LINK chainlink 20T00:00:00.000Z 90 rows × 37 columns df_ = df.groupby('name', sort = False)[['quote.USD.percent_chang'] 'quote.USD.percent_change_30d', 'quote.USD.percent_change df_ In [42]: quote.USD.percent_change_1h quote.USD.percent_change_24h quote.U Out[42]: name **Bitcoin** 0.45541 5.04807 **Ethereum** 0.48576 3.26800 Tether 0.01528 0.05748 **USDt BNB** 4.50059 0.53909 8.56878 Solana 0.33384 **USDC** 0.00100 0.02188 **XRP** -0.203401.95108 -0.07631 0.36870 Toncoin Dogecoin 0.49310 5.21112 Cardano 0.37117 3.13634 **TRON** 0.57146 0.06691 **Avalanche** 0.31900 4.35164 Shiba Inu 0.22908 4.09655 **Polkadot** 0.20216 3.48099 Chainlink -0.05166 3.73575 In []: $df4 = df_.stack()$ In [44]: name Out[44]: Bitcoin quote.USD.percent_change_1h 0.45541 quote.USD.percent_change_24h 5.04807 quote.USD.percent_change_ 14.77519 quote.USD.percent_change_30d 2.82353 quote.USD.percent_change_60d -2.55766 . . . Chainlink quote.USD.percent_change_24h 3.73575 quote.USD.percent_change_7d 10.00243 quote.USD.percent_change_30d -2.46013 -14.97111 quote.USD.percent_change_60d quote.USD.percent_change_90d -5.69230 dtype: float64 Length: 90, In [45]: type(df4) pandas.core.series.Series Out[45]: In [46]: df5 = df4.to_frame(name = 'values') values Out[46]: name quote.USD.percent_change_1h **Bitcoin** 0.45541 5.04807 quote.USD.percent_change_24h quote.USD.percent_change_7d 14.77519 2.82353 quote.USD.percent_change_30d quote.USD.percent_change_60d -2.55766 Chainlink quote.USD.percent_change_24h 3.73575 quote.USD.percent_change_7d 10.00243 -2.46013 quote.USD.percent_change_30d quote.USD.percent_change_60d -14.97111 quote.USD.percent_change_90d -5.69230 90 rows × 1 columns type(df5) In [47]: pandas.core.frame.DataFrame Out[47]: In []: df6 = df5.set_index(df5['name']) df5.count() In [48]: values Out[48]: dtype: int64 index = pd.Index(range(90))In [52]: df6 = df5.set_index(index) df6 values Out[52]: 0 0.45541 5.04807 14.77519 3 2.82353 -2.55766 3.73575 85 10.00243 86 -2.46013 87 88 -14.97111 89 -5.69230 90 rows × 1 columns In [54]: df6 = df5.reset_index() df6 Out[54]: name level_1 values Bitcoin quote.USD.percent_change_1h 0.45541 Bitcoin 1 quote.USD.percent_change_24h 5.04807 2 quote.USD.percent_change_7d 14.77519 Bitcoin 3 quote.USD.percent_change_30d 2.82353 Bitcoin 4 Bitcoin quote.USD.percent_change_60d -2.55766 quote.USD.percent change 24h 85 Chainlink 3.73575 86 Chainlink quote.USD.percent_change_7d 10.00243 quote.USD.percent change 30d 87 Chainlink -2.46013 88 Chainlink quote.USD.percent_change_60d -14.97111 Chainlink quote.USD.percent_change_90d -5.69230 89 90 rows × 3 columns df7 = df6.rename(columns = {'level_1':'percent_change'}) In [55]: df7 name percent_change values Out[55]: quote.USD.percent_change_1h 0 Bitcoin 0.45541 1 quote.USD.percent_change_24h 5.04807 Bitcoin 2 Bitcoin quote.USD.percent_change_7d 14.77519 3 Bitcoin quote.USD.percent change 30d 2.82353 4 Bitcoin -2.55766 quote.USD.percent_change_60d Chainlink quote.USD.percent_change_24h 85 3.73575 86 Chainlink quote.USD.percent_change_7d 10.00243 87 Chainlink quote.USD.percent_change_30d -2.46013quote.USD.percent change 60d 88 -14.97111 quote.USD.percent_change_90d 89 Chainlink -5.6923090 rows × 3 columns import seaborn as sns In [57]: import matplotlib.pyplot as plt sns.catplot(x='percent_change', y = 'values', hue ='name', data= In [59]: C:\Users\NAOMI KOYANA\anaconda3\Lib\site-packages\seaborn\axisgr id.py:118: UserWarning: The figure layout has changed to tight self._figure.tight_layout(*args, **kwargs) <seaborn.axisgrid.FacetGrid at 0x1fd5389c3d0> Out[59]: 20 name Bitcoin Ethereum 10 Tether USDt BNB Solana 0 USDC XRP Dogecoin -10Cardano TRON Avalanche -20 Shiba Inu Polkadot Chainlink -30quote.USipi.priendeSipppetentylefjii.priendeSippetenty percent_change df7['percent_change'] = df7['percent_change'].replace(['quote.US In [61]: name percent_change values Out[61]: 0.45541 0 Bitcoin 1h 1 Bitcoin 24h 5.04807 2 **Bitcoin** 14.77519 7d 3 Bitcoin 30d 2.82353 4 60d -2.55766 Bitcoin 85 Chainlink 24h 3.73575 Chainlink 10.00243 86 Chainlink 30d -2.46013 87 Chainlink -14.97111 60d Chainlink 90d -5.69230 89 90 rows × 3 columns In [72]: sns.catplot(x='percent_change', y = 'values', hue ='name', data= C:\Users\NAOMI KOYANA\anaconda3\Lib\site-packages\seaborn\axisgr id.py:118: UserWarning: The figure layout has changed to tight self._figure.tight_layout(*args, **kwargs) <seaborn.axisgrid.FacetGrid at 0x1fd548154d0> Out[72]: 20 name Bitcoin Ethereum 10 Tether USDt BNB Solana 0 USDC XRP Toncoin Dogecoin -10Cardano TRON Avalanche -20 Shiba Inu Polkadot Chainlink -301h 24h 7d 30d 60d 90d percent_change In []: In []: