Extracting and Visualizing Stock Data

Description

Extracting essential data from a dataset and displaying it is a necessary part of data science; therefore individuals can make correct decisions based on the data. In this assignment, you will extract some stock data, you will then display this data in a graph.
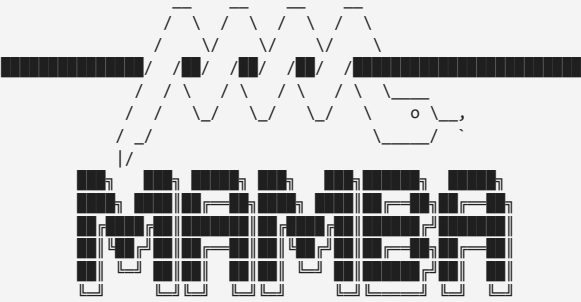
Table of Contents

Estimated Time Needed: **30 min**

Note:- If you are working in IBM Cloud Watson Studio, please replace the command for installing nbformat from `!pip install nbformat==4.2.0` to simply `!pip install nbformat`

```
In [1]:  !pip install yfinance==0.1.67
         !mamba install bs4==4.10.0 -y
         !pip install nbformat>4.2.0
```

```
Requirement already satisfied: yfinance==0.1.67 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (0.1.67)
Requirement already satisfied: multitasking>=0.0.7 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from yfinance==0.1.67) (0.
0.11)
Requirement already satisfied: lxml>=4.5.1 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from yfinance==0.1.67) (4.9.2)
Requirement already satisfied: requests>=2.20 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from yfinance==0.1.67) (2.31.0)
Requirement already satisfied: pandas>=0.24 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from yfinance==0.1.67) (1.4.3)
Requirement already satisfied: numpy>=1.15 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from yfinance==0.1.67) (1.23.1)
Requirement already satisfied: python-dateutil>=2.8.1 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from pandas>=0.24->yfin
ance==0.1.67) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from pandas>=0.24->yfinance==0.1.
67) (2022.1)
Requirement already satisfied: certifi>=2017.4.17 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from requests>=2.20->yfinan
ce==0.1.67) (2023.7.22)
Requirement already satisfied: urllib3<3,>=1.21.1 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from requests>=2.20->yfinan
ce==0.1.67) (1.26.11)
Requirement already satisfied: charset-normalizer<4,>=2 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from requests>=2.20->
yfinance==0.1.67) (2.0.4)
Requirement already satisfied: idna<4,>=2.5 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from requests>=2.20->yfinance==0.
1.67) (3.3)
Requirement already satisfied: six>=1.5 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from python-dateutil>=2.8.1->pandas>=
0.24->yfinance==0.1.67) (1.16.0)
```

```
                       __    __    __    __
                      /  \  /  \  /  \  /  \
                     /    \/    \/    \/    \
███████████████████/  /██/  /██/  /██/  /█████████████████████
                   / /  \   /  \   /  \   /  \  \___
                  / /    \_/    \_/    \_/    \    o \__,
                 / _/                   \_____/  `
                |/
        ███   ███   █████  ███   ███  █████   █████
        ████ ████  ██   ██ ████ ████  ██   ██ ██   ██
        ██ ███ ██  ███████ ██ ███ ██  █████   ███████
        ██     ██  ██   ██ ██     ██  ██   ██ ██   ██
        ██     ██  ██   ██ ██     ██  █████   ██   ██

        mamba (0.27.0) supported by @QuantStack

        GitHub:  https://github.com/mamba-org/mamba
        Twitter: https://twitter.com/QuantStack
████████████████████████████████████████████████████████████

Looking for: ['bs4==4.10.0']

[+] 0.0s
opt/ibm/custom-channels/meta-wscloud/linux-64 ──────── ──────── 0.0 B  0.0sopt/ibm/custom-channels/meta-wscloud/linux-64      0.0s
opt/ibm/custom-channels/meta-wscloud/noarch       12.8kB @  72.6MB/s  0.0s
opt/ibm/custom-channels/placebo-20230406-noarch/..  ??.?MB @  ??.?MB/s 0 failed  0.0s
opt/ibm/custom-channels/placebo-20230406-noarch/..   5.9kB @  41.8MB/s  0.0s
[+] 0.1s
pkgs/main/linux-64 ──────── ────────── ─  0.0 B /  ??.?MB @  ??.?MB/s  0.1s
pkgs/main/noarch   ──────── ───────── ──  0.0 B /  ??.?MB @  ??.?MB/s  0.1spkgs/main/linux-64
No change
pkgs/main/noarch                                              No change

Pinned packages:
  - python 3.10.*
  - python 3.10.*
  - widgetsnbextension 3.5.2.*


Transaction

  Prefix: /opt/conda/envs/Python-3.10

  All requested packages already installed
```

```
In [2]:  import yfinance as yf
         import pandas as pd
         import requests
         from bs4 import BeautifulSoup
         import plotly.graph_objects as go
         from plotly.subplots import make_subplots
```

Define Graphing Function

In this section, we define the function `make_graph`. You don't have to know how the function works, you should only care about the inputs. It takes a dataframe with stock data (dataframe must contain Date and Close columns), a dataframe with revenue data (dataframe must contain Date and Revenue

columns), and the name of the stock.

```
In [3]: def make_graph(stock_data, revenue_data, stock):
            fig = make_subplots(rows=2, cols=1, shared_xaxes=True, subplot_titles=("Historical Share Price", "Historical Revenue"), vertical_spaci
            stock_data_specific = stock_data[stock_data.Date <= '2021--06-14']
            revenue_data_specific = revenue_data[revenue_data.Date <= '2021-04-30']
            fig.add_trace(go.Scatter(x=pd.to_datetime(stock_data_specific.Date, infer_datetime_format=True), y=stock_data_specific.Close.astype("f
            fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data_specific.Date, infer_datetime_format=True), y=revenue_data_specific.Revenue.ast
            fig.update_xaxes(title_text="Date", row=1, col=1)
            fig.update_xaxes(title_text="Date", row=2, col=1)
            fig.update_yaxes(title_text="Price ($US)", row=1, col=1)
            fig.update_yaxes(title_text="Revenue ($US Millions)", row=2, col=1)
            fig.update_layout(showlegend=False,
            height=900,
            title=stock,
            xaxis_rangeslider_visible=True)
            fig.show()
```

Question 1: Use yfinance to Extract Stock Data

Using the `Ticker` function enter the ticker symbol of the stock we want to extract data on to create a ticker object. The stock is Tesla and its ticker symbol is `TSLA`.

```
In [4]: tesla = yf.Ticker("TSLA")
```

Using the ticker object and the function `history` extract stock information and save it in a dataframe named `tesla_data`. Set the `period` parameter to `max` so we get information for the maximum amount of time.

```
In [5]: tesla_data = tesla.history(period="max")
```

Reset the index using the `reset_index(inplace=True)` function on the tesla_data DataFrame and display the first five rows of the `tesla_data` dataframe using the `head` function. Take a screenshot of the results and code from the beginning of Question 1 to the results below.

```
In [6]: tesla_data.reset_index(inplace=True)
        tesla_data.head()
```

Out[6]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2010-06-29	1.266667	1.666667	1.169333	1.592667	281494500	0	0.0
1	2010-06-30	1.719333	2.028000	1.553333	1.588667	257806500	0	0.0
2	2010-07-01	1.666667	1.728000	1.351333	1.464000	123282000	0	0.0
3	2010-07-02	1.533333	1.540000	1.247333	1.280000	77097000	0	0.0
4	2010-07-06	1.333333	1.333333	1.055333	1.074000	103003500	0	0.0

Question 2: Use Webscraping to Extract Tesla Revenue Data

Use the `requests` library to download the webpage https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/revenue.htm Save the text of the response as a variable named `html_data`.

```
In [7]: url = ' https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/r
        data  = requests.get(url).text
```

Parse the html data using `beautiful_soup`.

Using `BeautifulSoup` or the `read_html` function extract the table with `Tesla Revenue` and store it into a dataframe named `tesla_revenue`. The dataframe should have columns `Date` and `Revenue`.

▶ Click here if you need help locating the table

```
In [8]: pip install html5lib
```

```
Requirement already satisfied: html5lib in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (1.1)
Requirement already satisfied: webencodings in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from html5lib) (0.5.1)
Requirement already satisfied: six>=1.9 in /opt/conda/envs/Python-3.10/lib/python3.10/site-packages (from html5lib) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

```
In [9]: beautiful_soup = BeautifulSoup(data, 'html5lib')
        beautiful_soup
```

```
Out[9]: <!DOCTYPE html>
        <!--[if lt IE 7]>      <html class="no-js lt-ie9 lt-ie8 lt-ie7"> <![endif]--><!--[if IE 7]>         <html class="no-js lt-ie9 lt-ie8"> <!
        [endif]--><!--[if IE 8]>        <html class="no-js lt-ie9"> <![endif]--><!--[if gt IE 8]><!--><html class="no-js"><!--<![endif]--><head>
                    <meta charset="utf-8"/>
                    <meta content="IE=edge,chrome=1" http-equiv="X-UA-Compatible"/>
                        <link href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue" rel="canonical"/>
                        <title>Tesla Revenue 2010-2022 | TSLA | MacroTrends</title>
                        <meta content="Tesla annual/quarterly revenue history and growth rate from 2010 to 2022. Revenue can be defined as the amo
        unt of money a company receives from its customers in exchange for the sales of goods or services.  Revenue is the top line item on an inc
        ome statement from which all costs and expenses are subtracted to arrive at net income.

                                        &lt;ul style='margin-top:10px;'&gt;
                                        &lt;li&gt;Tesla revenue for the quarter ending September 30, 2022 was &lt;strong&gt;$21.454B&lt;/strong&g
        t;, a &lt;strong&gt;55.95% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                        &lt;li&gt;Tesla revenue for the twelve months ending September 30, 2022 was &lt;strong&gt;$74.863B&lt;/str
        ong&gt;, a &lt;strong&gt;59.8% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2021 was &lt;strong&gt;$53.823B&lt;/strong&gt;, a &lt;strong&gt;70.67%
        increase&lt;/strong&gt; from 2020.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2020 was &lt;strong&gt;$31.536B&lt;/strong&gt;, a &lt;strong&gt;28.31%
        increase&lt;/strong&gt; from 2019.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2019 was &lt;strong&gt;$24.578B&lt;/strong&gt;, a &lt;strong&gt;14.52%
        increase&lt;/strong&gt; from 2018.&lt;/li&gt;
                                        &lt;/ul&gt;" name="description"/>
                    <meta content="" name="robots"/>

                    <link href="/assets/images/icons/FAVICON/macro-trends_favicon.ico" rel="shortcut icon" type="image/x-icon"/>

                    <meta content="1228954C688F5907894001CD8E5E624B" name="msvalidate.01"/>
                    <meta content="6MnD_3iDtAP1ZyoGK1YMyVIVck4r5Ws80I9xD3ue4_A" name="google-site-verification"/>

                    <!-- Load in Roboto Font -->
                    <link href="https://fonts.googleapis.com/css?family=Roboto:400,600,700" rel="stylesheet"/>

                    <!-- Bootstrap -->
                    <link href="//maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css" rel="stylesheet"/> <!--for Bootstrap CDN vers
        ion-->
                    <link href="//maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap-theme.min.css" rel="stylesheet"/>

                    <!-- Font Awesome -->
                    <link href="//stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet"/> <!--for Font Awes
        ome CDN version-->

                    <!-- Jquery, Bootstrap and Menu Javascript -->
                    <script crossorigin="anonymous" integrity="sha256-ZosEbRLbNQzLpnKIkEdrPv7lOy9C27hHQ+Xp8a4MxAQ=" src="//code.jquery.com/jqu
        ery-1.12.4.min.js"></script>
                    <script src="//maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>

                    <!-- Modernizr for cross-browser support -->
                    <script src="/assets/javascript/modernizr-2.6.2-respond-1.1.0.min.js" type="text/javascript"></script>

                    <!-- Latest compiled and minified CSS -->
                    <link href="//www.fuelcdn.com/fuelux/3.13.0/css/fuelux.min.css" rel="stylesheet"/>

                    <!-- Latest compiled and minified JavaScript -->
                    <script src="//www.fuelcdn.com/fuelux/3.13.0/js/fuelux.min.js"></script>


                    <!-- Twitter Card data -->
                     <meta content="summary_large_image" name="twitter:card"/>
                     <meta content="@tmacrotrends" name="twitter:site"/>
                     <meta content="Tesla Revenue 2010-2022 | TSLA" name="twitter:title"/>
                     <meta content="Tesla annual/quarterly revenue history and growth rate from 2010 to 2022. Revenue can be defined as the a
        mount of money a company receives from its customers in exchange for the sales of goods or services.  Revenue is the top line item on an i
        ncome statement from which all costs and expenses are subtracted to arrive at net income.

                                        &lt;ul style='margin-top:10px;'&gt;
                                        &lt;li&gt;Tesla revenue for the quarter ending September 30, 2022 was &lt;strong&gt;$21.454B&lt;/strong&g
        t;, a &lt;strong&gt;55.95% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                        &lt;li&gt;Tesla revenue for the twelve months ending September 30, 2022 was &lt;strong&gt;$74.863B&lt;/str
        ong&gt;, a &lt;strong&gt;59.8% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2021 was &lt;strong&gt;$53.823B&lt;/strong&gt;, a &lt;strong&gt;70.67%
        increase&lt;/strong&gt; from 2020.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2020 was &lt;strong&gt;$31.536B&lt;/strong&gt;, a &lt;strong&gt;28.31%
        increase&lt;/strong&gt; from 2019.&lt;/li&gt;
                                        &lt;li&gt;Tesla annual revenue for 2019 was &lt;strong&gt;$24.578B&lt;/strong&gt;, a &lt;strong&gt;14.52%
        increase&lt;/strong&gt; from 2018.&lt;/li&gt;
                                        &lt;/ul&gt;" name="twitter:description"/>

                    <!-- Open Graph data -->
                    <meta content="https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue" property="og:url"/>
                    <meta content="Tesla Revenue 2010-2022 | TSLA" property="og:title"/>
                    <meta content="Tesla annual/quarterly revenue history and growth rate from 2010 to 2022. Revenue can be defined as the a
        mount of money a company receives from its customers in exchange for the sales of goods or services.  Revenue is the top line item on an i
        ncome statement from which all costs and expenses are subtracted to arrive at net income.
```

```
                                                &lt;ul style='margin-top:10px;'&gt;
                                                &lt;li&gt;Tesla revenue for the quarter ending September 30, 2022 was &lt;strong&gt;$21.454B&lt;/strong&g
t;, a &lt;strong&gt;55.95% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                                &lt;li&gt;Tesla revenue for the twelve months ending September 30, 2022 was &lt;strong&gt;$74.863B&lt;/str
ong&gt;, a &lt;strong&gt;59.8% increase&lt;/strong&gt; year-over-year.&lt;/li&gt;
                                                &lt;li&gt;Tesla annual revenue for 2021 was &lt;strong&gt;$53.823B&lt;/strong&gt;, a &lt;strong&gt;70.67%
increase&lt;/strong&gt; from 2020.&lt;/li&gt;
                                                &lt;li&gt;Tesla annual revenue for 2020 was &lt;strong&gt;$31.536B&lt;/strong&gt;, a &lt;strong&gt;28.31%
increase&lt;/strong&gt; from 2019.&lt;/li&gt;
                                                &lt;li&gt;Tesla annual revenue for 2019 was &lt;strong&gt;$24.578B&lt;/strong&gt;, a &lt;strong&gt;14.52%
increase&lt;/strong&gt; from 2018.&lt;/li&gt;
                                                &lt;/ul&gt;" property="og:description"/>


                        <!-- JQXGRID STYLES AND JAVASCRIPT -->
                        <link href="/assets/php/jqfiles/jqwidgets/styles/jqx.base.css" rel="stylesheet" type="text/css"/>
                        <link href="/assets/php/jqfiles/jqwidgets/styles/jqx.bootstrap.css" rel="stylesheet" type="text/css"/>

                        <!-- LOAD THESE SCRIPTS EARLY SO THE TICKER INPUT FIELD IS STYLED INSTANTLY -->
                        <script src="/assets/php/jqfiles/jqwidgets/jqxcore.js" type="text/javascript"></script>
                        <script src="/assets/php/jqfiles/jqwidgets/jqxdata.js" type="text/javascript"></script>
                        <script src="/assets/php/jqfiles/jqwidgets/jqxinput.js" type="text/javascript"></script>

                        <!-- Styling for search box -->
                        <link href="/assets/php/jquery-typeahead/jquery.typeahead_pages.css" rel="stylesheet" type="text/css"/>

                        <!-- Search box javascript -->
                        <script src="/assets/php/jquery-typeahead/jquery.typeahead.min.js"></script>


                        <link href="//cdnjs.cloudflare.com/ajax/libs/select2/4.0.3/css/select2.min.css" rel="stylesheet"/>
                        <script src="//cdnjs.cloudflare.com/ajax/libs/select2/4.0.3/js/select2.min.js"></script>

        <!-- ToolTips -->
                        <script src="/assets/php/tipped-4.6.1/js/tipped/tipped.js"></script>
                        <link href="/assets/php/tipped-4.6.1/css/tipped/tipped.css" rel="stylesheet"/>


                        <!-- START IC AD INSERT -->

    <script>InvestingChannelQueue = window.InvestingChannelQueue || [];</script>

        <script async="" src="https://u5.investingchannel.com/static/uat.js"></script>

    <script type="text/javascript">

        //Push Run command with the API-Key, so that UAT will start processing publishers request.
        InvestingChannelQueue.push(function() {
            ic_page = InvestingChannel.UAT.Run("df17ac1e-cc7f-11e8-82a5-0abbb61c4a6a");
        });

                var tickerValue = 'TSLA';
        var oopDivTag;
                var subLeaderboardTag;
                var rightSidebarTag1;
                var rightSidebarTag2;
                var searchButtonTag;
                var partner_center_tag;
                var videoTag;
                var ic_3x7_1;
                //var IC_D_300x250_BCC;
                //var IC_D_3x7_BCC;

        //To define new tags/out of page tags.
        InvestingChannelQueue.push(function() {

                        ic_page.setKval({'t': tickerValue});

            //videoTag = ic_page.defineNativeTag("Macrotrends/fundamentalanalysis","3x6, 728x90, Fluid","IC_D_3x6",35);

            oopDivTag = ic_page.defineOutOfPageTag("Macrotrends/fundamentalanalysis","oopDivTag_1");
                        oopDivTag.setKval({"adslot":"IC_OOP_1"});


                        LeaderboardTag = ic_page.defineTag("Macrotrends/fundamentalanalysis","970x250,728x90,970x90,fluid", "IC_D_970x250_
1");
                        LeaderboardTag.setKval({"adslot":"IC_D_970x250_1"});


                        subLeaderboardTag = ic_page.defineTag("Macrotrends/fundamentalanalysis","728x90","ic_728x90_1");
                        subLeaderboardTag.setKval({"adslot":"IC_728x90_1"});


                        rightSidebarTag1 = ic_page.defineTag("Macrotrends/fundamentalanalysis","300x250,Fluid","ic_300x250_1");
```

```
                              rightSidebarTag1.setKval({"adslot":"IC_300x250_1"});


                              rightSidebarTag2 = ic_page.defineTag("Macrotrends/fundamentalanalysis","300x600,300x250,160x600,300x1050,Fluid","i
        c_300x600_1");
                              rightSidebarTag2.setKval({"adslot":"IC_300x600_1"});


                              searchButtonTag = ic_page.defineTag("Macrotrends/fundamentalanalysis","88x31","ic_88x31_1");
                              searchButtonTag.setKval({"pc":"pc","adslot":"IC_88x31"});

                              partner_center_tag = ic_page.defineTag("macrotrends/fundamentalanalysis","728x214, 728x90","IC_728x214_1");
                              partner_center_tag.setKval({"pc":"pc","adslot":"d_728x90_2"});

                              ic_3x7_1 = ic_page.defineNativeTag("macrotrends/fundamentalanalysis","3x7,728x90,Fluid","IC_3x7_1", 35);

                              //IC_D_300x250_BCC = ic_page.defineTag(adCategory,"300x250,Fluid","IC_D_300x250_BCC");
                              //IC_D_300x250_BCC.setKval({"adslot":"IC_D_300x250_BCC"});

                              //IC_D_3x7_BCC = ic_page.defineTag(adCategory,"3x7, Fluid","IC_D_3x7_BCC");
                              //IC_D_3x7_BCC.setKval({"adslot":"IC_D_3x7_BCC"});


                  });

            //To render tags.
                          InvestingChannelQueue.push(function() {
                  ic_page.renderTags();
            });


          </script>

                  <!-- END IC AD INSERT -->


                  <!-- Global site tag (gtag.js) - Google Analytics -->
                  <script async="" src="https://www.googletagmanager.com/gtag/js?id=UA-62099500-1"></script>
                  <script>
                    window.dataLayer = window.dataLayer || [];
                    function gtag(){dataLayer.push(arguments);}
                    gtag('js', new Date());

                    gtag('config', 'UA-62099500-1');
                  </script>

                  <!-- Google tag (gtag.js) -->
                  <script async="" src="https://www.googletagmanager.com/gtag/js?id=G-3KL0LYERBH"></script>
                  <script>
                    window.dataLayer = window.dataLayer || [];
                    function gtag(){dataLayer.push(arguments);}
                    gtag('js', new Date());

                    gtag('config', 'G-3KL0LYERBH');
                  </script>


                  <!--<script>
                          (function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){
                          (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o),
                          m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
                          })(window,document,'script','//www.google-analytics.com/analytics.js','ga');

                          ga('create', 'UA-62099500-1', 'auto');
                          ga('send', 'pageview');



                          //Send one event to GA at 30 seconds to control bounce rate
                          setTimeout("ga('send','event','Engaged User','30 Second Engagement')",30000);

                  //This code sends events to ga every 30 seconds when the window is in focus
                          var count = 0;
                          var myInterval;

                          // Active
                          window.addEventListener('load', startTimer);
                          window.addEventListener('focus', startTimer);

                          // Inactive
                          window.addEventListener('blur', stopTimer);

                          function timerHandler() {
```

```
                                        count++;

                                        if(count % 60 == 0 && count <= 1800) {

                                                var interval = (count/60);
                                                interval = interval.toFixed(0);

                                                var action = interval + " Minute Engagement";

                                                ga('send','event','Engaged User',action);


                                        }

                                }

                                // Start timer
                                function startTimer() {
                                myInterval = window.setInterval(timerHandler, 1000);
                                }

                                // Stop timer
                                function stopTimer() {
                                window.clearInterval(myInterval);
                                }


                </script>-->

<style>

#style-1::-webkit-scrollbar-track
{
        -webkit-box-shadow: inset 0 0 6px rgba(0,0,0,0.3);
        border-radius: 3px;
        background-color: #F5F5F5;
}

#style-1::-webkit-scrollbar
{
        width: 18px;
        background-color: #F5F5F5;
}

#style-1::-webkit-scrollbar-thumb
{
        border-radius: 3px;
        -webkit-box-shadow: inset 0 0 6px rgba(0,0,0,.3);
        background-color: #5B9BD5;
}

html {
        width:100%;
        position: relative;
        min-height: 100%;
}

body {

        width:100%;

        /* Margin bottom by footer height */
          margin-bottom: 80px;
          color: #444;
          background-color:#fff;
          font-family: 'Roboto', sans-serif;
          font-size:14px;
}



.header_content_container {

        min-width: 1280px;
        padding: 0px;
}

.main_content_container {

        min-width: 1280px;
        max-width: 1280px;
```

```
            padding: 0px 30px 100px 30px;
    }

    .sub_main_content_container {

    }


    #main_content {

            padding:0px 20px 0px 0px;
            width:826px;
        float:left;

    }

    #right_sidebar {

      width: 300px;
      float:left;
      height:3200px;

    }

    #sticky_ad_left {

      position: -webkit-sticky;
      position: sticky;
      top: 30px;


    }

    #sticky_ad_right {

      position: -webkit-sticky;
      position: sticky;
      top: 30px;


    }



    .footer {
      position: absolute;
      bottom: 0;
      width: 100%;
      /* Set the fixed height of the footer here */
      height: 100px;
      margin-top: 10px;
      padding: 30px 20px 20px 20px;
      color:#fff !important;
      background-color:#444;
      text-align: center;
      font-size:16px;
    }

    .footer a {
      color:#fff !important;
    }

    .ticker_search_box {

            background-color:#F5F5F5;
            border: 1px solid #E0E0E0;
            border-bottom:none;
            padding:10px 30px 10px 10px;
            margin:0px 0px 0px 0px;
            text-align:center;

    }

    .related_tickers {

            width:100%;
            background-color:#F5F5F5;
            border: 1px solid #E0E0E0;
            border-top: 0px;
```

```css
        padding:3px 30px 3px 10px;
        margin:0px 0px 0px 0px;
        text-align:center;

}

.statement_type_select {

        width:100%;
        height:28px;

}

.frequency_select {

        width:100%;
        height:28px;
        font-weight:600;

}


.select2 {

        text-align:left;
        font-weight:600;

        }

#jqxInput {

                width:100%;
                height:28px;

}


.header__parent_container {

        width:100%;
        height:50px;
        padding:15px 0px 10px -20px;
        margin:0px 0px 0px 0px;
        background-color:#444;

}

.header_container {

        width:100%;
        height:50px;
        padding:15px 0px 10px -20px;
        margin:0px 0px 0px 0px;
        background-color:#444;

}

.header_logo {

        padding-top:10px;
        margin-left:50px;

}

.menu_parent_container {

        width:100%;
        height:34px;
        font-size:16px;
        padding:15px 0px 10px -20px;
        margin:0px 0px 0px 0px;
        background-color:#0089de;
}

.menu_container {

        width:1280px;
        height:34px;
        font-size:16px;
        padding:11px 0px 0px -20px;
        margin: 0 auto;
        background-color:#0089de;
        z-index:1000;
```

```
        }

        .menu_item {

                height:34px;
                float:left;
                font-size:14px;
                font-weight:bold;
                color:#fff;
                text-align:center;
                padding:7px 16px 0px 16px;

        }

        .menu_item:hover
        {
                background-color:#32a0e4;
                cursor: pointer;
        }

        .menu_item a
        {
                color:#fff;
                cursor: pointer;
        }

        .menu_item a:hover
        {
                text-decoration:none;
                cursor: pointer;
        }

        .leaderboard_ad {

                margin-top:20px;
                margin-bottom:20px;
                text-align:center;
                min-height:100px;

        }

        #filter_result_count {

                width:100%;
                text-align:center;
                font-size:24px;
                font-weight:bold;
                padding:10px 15px;
                background-color:#efefef;
                border: 1px solid #dfdfdf;
                margin:20px;

        }


        select {
          color: #444;
          background-color: #FFF;
          border: 1px solid #AAA;
          border-radius: 4px;
          box-sizing: border-box;
          cursor: pointer;
          display: block;
          height:40px;
          line-height: 40px;
        }

        .historical_data_table  {
            table-layout: fixed;
                margin:20px;
        }

        .historical_data_table tbody tr td {

                padding:6px;
                vertical-align: middle !important;

        }


        .descriptors {

                text-align:center;
                font-size:14px;
```

```
                padding:15px;

        }

        .td_metric_name {

                width:110px;
                padding-top:17px;

        }

        .metric_link {

                font-size:14px;
                font-weight:bold;

        }

        .help_icon {

                width:15px;
                height:18px;
                padding-bottom:3px;

        }

        .td_min_value {

                width:75px;
                text-align:center;
                font-size:13px;

        }

        .td_max_value {

                width:75px;
                text-align:center;
                font-size:13px;

        }

        #myCombobox .form-control {

                background-color: #99d5ff;


        }

        .dropdown-toggle {

                height:24px;
                padding-top:0px;
                padding-left:7px;
                width:24px;

        }

        .dropdown-menu-right {

                min-width:75px;
                font-size:13px;

        }

        .form-control {

                font-size:12px;
                padding:5px 10px;
                height:24px;


        }

        #myPills1 {

                margin:0px 15px 10px 0px;

        }

        #jqxgrid {

                border-radius:0px;
```

```
            }

            .jqx-widget-header {

                font-family: 'Roboto', sans-serif;
                    font-size:13px;

            }

            .jqx-item {

                font-family: 'Roboto', sans-serif;
                    font-size: 13px;

            }

            .jqx-widget-content {

                    border-color: #E0E0E0;

            }

            #jqxgrid .jqx-grid-cell {

                    border-color: #E0E0E0;

            }

            #jqxgrid .jqx-grid-cell-pinned {

                    border-color: #E0E0E0;
                    background-color: #F5F5F5;

            }

            #jqxgrid .jqx-grid-column-header {

                    border-color: #E0E0E0;
                    background-color: #F5F5F5;

            }

            .clear_zero {

                    height:0px;

            }


            /* Styles for Popup Charts */

            .tpd-size-large {

                    margin:0px;
                    padding: 0px;
            }

            .popup_window_wrapper {

                    margin:15px;

            }

            .popup_stock_name {

                    font-size:16px;
                    font-weight:bold;
                    margin:5px;

            }

            .popup_stock_attributes {

                    font-size:13px;
                    font-weight:bold;
                    margin:5px;

            }

            .popup_stock_description {

                    font-size:12px;
                    margin:5px;
```

```
        }

        .jqx-input {

                font-size:14px;

        }

        .jqx-menu-item {

                font-size:14px;

        }

        .jqx-input {

                padding:5px 10px;

        }

        .nav-tabs {
            border: 1px solid #E0E0E0;
                background-color:#F5F5F5;
                padding: 3px 5px 0px 5px;
                margin: 0px 0px 10px 0px;
        }

        .nav-tabs>li>a {
                font-size:13px;
                padding:7px 11px;
                font-weight:600;
            margin-right: 0px;
            line-height: 1.42857143;
            border: 0px;
            border-radius: 0px 0px 0 0;
                background-color:#F5F5F5;

        }

        .nav-tabs>li>a .active {
            margin-right: 0px;
            line-height: 1.42857143;
            border: 1px solid #E0E0E0;
            border-radius: 0px 0px 0 0;
                background-color:#F5F5F5;

        }

        .nav-tabs>li>a:hover {
            background-color: #F5F5F5;
                text-decoration: underline;

        }

        .donate_buttons {

                margin-left:20px;

                }

        .modal-body {

                margin:10px 40px 20px 40px;
                text-align:left;
                font-size:18px;

        }

        .modal-body li {

                margin-top:20px;
                font-size:14px;

        }


        .modal_title {

                text-align:center;
                margin-bottom:30px;

        }
```

```
        .modal-body th{

                margin-left:10px;
                font-size:14px;
        }

        .modal-body td {

                color: #337ab7;
                margin-left:10px;
                font-size:14px;
        }

        .modal_button {

                margin-top:50px;
                text-align:center;
                font-size:16px;

        }


        </style>


        </head>
                <body class="fuelux">
                <!--[if lt IE 7]>
                        <p class="browsehappy">You are using an <strong>outdated</strong> browser. Please <a href="https://browsehappy.com/">upgrade y
our browser</a> to improve your experience.</p>
                <![endif]-->

<div class="header_content_container container-fluid">


<div class="header_parent_container">

<div class="header_container">

        <div class="header_logo col-xs-2">
                <a class="logo" href="https://www.macrotrends.net" title="MacroTrends Home Page"><img src="/assets/images/logo_bright1.pn
g"/></a>
        </div>


          <div class="col-xs-1 pull-right" style="padding-top:8px; margin-right:10px; margin-left:0px; padding-left:0px;">

                <div id="ic_88x31_1">


                </div>

          </div>


          <div class="col-xs-5 pull-right" style="padding-top:8px;">
        <form>
         <div class="typeahead__container">
             <div class="typeahead__field">

             <span class="typeahead__query">
                 <input autocomplete="off" autofocus="" class="js-typeahead" name="q" placeholder="Search over 200,000 charts..." type="sea
rch"/>
             </span>
             <span class="typeahead__button">
                 <button type="submit">
                     <span class="typeahead__search-icon"></span>
                 </button>
             </span>

             </div>
         </div>
     </form>

          </div>

          </div>


</div>

<div class="menu_parent_container">
```

```
                <div class="menu_container">

                        <a href="/stocks/stock-screener"><div class="menu_item">Stock Screener</div></a>
                        <a href="/stocks/research"><div class="menu_item">Stock Research</div></a>
                        <a href="/charts/stock-indexes"><div class="menu_item">Market Indexes</div></a>
                        <a href="/charts/precious-metals"><div class="menu_item">Precious Metals</div></a>
                        <a href="/charts/energy"><div class="menu_item">Energy</div></a>
                        <a href="/charts/commodities"><div class="menu_item">Commodities</div></a>
                        <a href="/charts/exchange-rates"><div class="menu_item">Exchange Rates</div></a>
                        <a href="/charts/interest-rates"><div class="menu_item">Interest Rates</div></a>
                        <a href="/charts/economy"><div class="menu_item">Economy</div></a>
                        <a href="/countries/topic-overview"><div class="menu_item">Global Metrics</div></a>


        </div>

        </div>

        </div>

        <div class="main_content_container container-fluid" id="main_content_container">

                <div class="adx_top_ad col-xs-12" id="ic_leaderboard" style="margin: 20px 20px 30px 20px; min-height:265px; text-align:center;">

                        <div id="IC_D_970x250_1"></div>

                        <!--Smartad # 4058: Macrotrends - 970x250 Image - Placement 2-->
                        <!--<iframe id="dianomi_leaderboard" WIDTH="970" HEIGHT="250" SCROLLING="NO" src="//www.dianomi.com/smartads.epl?id=4058"
style="height: 250px; border: none; overflow: hidden;"></iframe>-->

                </div>

                                <div style="margin:20px 20px 20px 5px;">

                                        <h2 style="margin-left:0px; font-weight:600; color:#444;">Tesla Revenue 2010-2022 | TSLA</h2>

                                </div>

                <div class="sub_main_content_container">



                                <div id="main_content">


        <div class="navigation_tabs" style="margin-bottom:20px;">

                <ul class="nav nav-tabs" id="myTabs" style="font-size:15px;">



                                                <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/stock-price-history">Prices</a></li>



                                                <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/financial-statements">Financials</a></li
>



                                                <li class="active"><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue">Revenue &amp; Pr
ofit</a></li>



                                                <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/total-assets">Assets &amp; Liabilities</
a></li>
```

```
                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/profit-margins">Margins</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/pe-ratio">Price Ratios</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/current-ratio">Other Ratios</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/dividend-yield-history">Other Metrics</a
></li>


                </ul>


                <ul class="nav nav-tabs" id="myTabs" style="font-size:15px;">


                                        <li class="active"><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue">Revenue</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/gross-profit">Gross Profit</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/operating-income">Operating Income</a></
li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/ebitda">EBITDA</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/net-income">Net Income</a></li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/eps-earnings-per-share-diluted">EPS</a>
</li>


                                        <li><a href="https://www.macrotrends.net/stocks/charts/TSLA/tesla/shares-outstanding">Shares Outstanding</
a></li>


                </ul>


        </div>
```

```
                              <div style="background-color:#fff; margin: 0px 0px 20px 0px; padding:20px 30px; border:1px solid #dfdfdf;">

                                    <span style="color:#444; line-height: 1.8;">Tesla annual/quarterly revenue history and growth rate from 20
10 to 2022. Revenue can be defined as the amount of money a company receives from its customers in exchange for the sales of goods or serv
ices.  Revenue is the top line item on an income statement from which all costs and expenses are subtracted to arrive at net income.

                                    <ul style="margin-top:10px;">
                                    <li>Tesla revenue for the quarter ending September 30, 2022 was <strong>$21.454B</strong>, a <strong>55.9
5% increase</strong> year-over-year.</li>
                                    <li>Tesla revenue for the twelve months ending September 30, 2022 was <strong>$74.863B</strong>, a <strong
>59.8% increase</strong> year-over-year.</li>
                                    <li>Tesla annual revenue for 2021 was <strong>$53.823B</strong>, a <strong>70.67% increase</strong> from 2
020.</li>
                                    <li>Tesla annual revenue for 2020 was <strong>$31.536B</strong>, a <strong>28.31% increase</strong> from 2
019.</li>
                                    <li>Tesla annual revenue for 2019 was <strong>$24.578B</strong>, a <strong>14.52% increase</strong> from 2
018.</li>
                                    </ul></span>

                        </div>


                        <div style="background-color:#fff; margin: 30px 0px 30px 0px; text-align:center; min-height:90px;">


                            <div id="ic_728x90_1" style="margin:10px 20px;">


                            </div>

                        </div>


                        <div class="ticker_search_box" style="text-align:center;">

                <div style="width:400px; margin-left:20px; border-bottom:none;">



        <script type="text/javascript">
            $(document).ready(function () {

                            var url = "https://www.macrotrends.net/assets/php/ticker_search_list.php";

                // prepare the data
                var source =
                {
                    datatype: "json",
                    datafields: [
                        { name: 'n' },
                                    { name: 's'}
                    ],
                    url: url
                };
                var dataAdapter = new $.jqx.dataAdapter(source);
                // Create a jqxInput
                $("#jqxInput").jqxInput({ source: dataAdapter, minLength: 1, placeHolder: "Search for ticker or company name...", items: 2
0, searchMode: 'containsignorecase', displayMember: "n", valueMember: "s", width: '100%', height: 22, theme: 'bootstrap'});
                $("#jqxInput").on('select', function (event) {
                    if (event.args) {
                        var item = event.args.item;

                                        //Have to split the ticker and slug back out since jqxinput only seems to allow one data v
alue
                                        var itemArray = item.value.split("\/");
                                        var ticker = itemArray[0];
                                        var slug = itemArray[1];
                    if (item) {


                                                window.location = "https://www.macrotrends.net/stocks/charts/" + ticker +
            "/" + slug + "/revenue";

                                            }
                        }
                });
```

```
                });
        </script>
        <input autocomplete="off" id="jqxInput"/>

                </div>

                <div style="width:280px; margin-top: -32px; margin-left:80px; border-bottom:none; float:right;">


<button class="chart_buttons btn btn-success btn-sm" id="compareStocks" style="margin-right:15px;"><span class="glyphicon glyphicon-stat
s"></span>  <strong>Compare TSLA With Other Stocks</strong></button>

</div>

                </div>

                <div style="height:690px; background-color:#fff; border:1px solid #dfdfdf;">

<iframe frameborder="0" height="680" hspace="0" id="chart_iframe" margin="0px" marginheight="0" marginwidth="0" scrolling="NO" src="http
s://www.macrotrends.net/assets/php/fundamental_iframe.php?t=TSLA&amp;type=revenue&amp;statement=income-statement&amp;freq=Q" title="Intera
ctive chart: Tesla Revenue 2010-2022 | TSLA" valign="middle" vspace="0" width="800"></iframe>

                </div>


                <div id="ic_video_ad" style="height:317px; margin:30px;">


                        <div id="IC_D_3x6"></div>

                </div>


                <div style="background-color:#fff; margin: 30px 0px; padding:10px 30px; border:1px solid #dfdfdf;">


                        <iframe frameborder="0" height="300" hspace="0" id="dianomi_below_chart" marginheight="0" marginwidth="0" scrollin
g="NO" src="//www.dianomi.com/smartads.epl?id=4057" valign="middle" vspace="0" width="100%"></iframe>

                        <!--<div id="IC_D_3x7_BCC"></div>-->

                </div>



                <div id="style-1" style="background-color:#fff; height:510px; overflow:auto; margin: 30px 0px 30px 0px; padding:0p
x 30px 20px 0px; border:1px solid #dfdfdf;">

                        <div class="col-xs-6">

                        <table class="historical_data_table table">
                        <thead>
                          <tr>
                                <th colspan="2" style="text-align:center">Tesla Annual Revenue<br/><span style="font-size:14px;">
(Millions of US $)</span></th>
                          </tr>
                        </thead>
                        <tbody>

                        <tr>
                                <td style="text-align:center">2021</td>


                                                        <td style="text-align:center">$53,823</td>


                        </tr>


                        <tr>
                                <td style="text-align:center">2020</td>


                                                        <td style="text-align:center">$31,536</td>
```

```
        </tr>

        <tr>
                <td style="text-align:center">2019</td>


                                                <td style="text-align:center">$24,578</td>


        </tr>

        <tr>
                <td style="text-align:center">2018</td>


                                                <td style="text-align:center">$21,461</td>


        </tr>

        <tr>
                <td style="text-align:center">2017</td>


                                                <td style="text-align:center">$11,759</td>


        </tr>

        <tr>
                <td style="text-align:center">2016</td>


                                                <td style="text-align:center">$7,000</td>


        </tr>

        <tr>
                <td style="text-align:center">2015</td>


                                                <td style="text-align:center">$4,046</td>


        </tr>

        <tr>
                <td style="text-align:center">2014</td>


                                                <td style="text-align:center">$3,198</td>


        </tr>

        <tr>
                <td style="text-align:center">2013</td>


                                                <td style="text-align:center">$2,013</td>


        </tr>

        <tr>
                <td style="text-align:center">2012</td>
```

```
                                                          <td style="text-align:center">$413</td>

                    </tr>

                    <tr>
                              <td style="text-align:center">2011</td>


                                                          <td style="text-align:center">$204</td>

                    </tr>

                    <tr>
                              <td style="text-align:center">2010</td>


                                                          <td style="text-align:center">$117</td>

                    </tr>

                    <tr>
                              <td style="text-align:center">2009</td>


                                                          <td style="text-align:center">$112</td>

                    </tr>

                    </tbody>
            </table>

            </div>

            <div class="col-xs-6">
                    <table class="historical_data_table table">
                    <thead>
                      <tr>
                              <th colspan="2" style="text-align:center">Tesla Quarterly Revenue<br/><span style="font-size:14p
x;">(Millions of US $)</span></th>
                            </tr>
                    </thead>
                    <tbody>

                    <tr>
                              <td style="text-align:center">2022-09-30</td>



                                    <td style="text-align:center">$21,454</td>


                      </tr>

                    <tr>
                              <td style="text-align:center">2022-06-30</td>



                                    <td style="text-align:center">$16,934</td>


                      </tr>
```

```
<tr>
        <td style="text-align:center">2022-03-31</td>


            <td style="text-align:center">$18,756</td>


    </tr>

<tr>
        <td style="text-align:center">2021-12-31</td>


            <td style="text-align:center">$17,719</td>


    </tr>

<tr>
        <td style="text-align:center">2021-09-30</td>


            <td style="text-align:center">$13,757</td>


    </tr>

<tr>
        <td style="text-align:center">2021-06-30</td>


            <td style="text-align:center">$11,958</td>


    </tr>

<tr>
        <td style="text-align:center">2021-03-31</td>


            <td style="text-align:center">$10,389</td>


    </tr>

<tr>
        <td style="text-align:center">2020-12-31</td>


            <td style="text-align:center">$10,744</td>


    </tr>
```

```
    <tr>
            <td style="text-align:center">2020-09-30</td>


            <td style="text-align:center">$8,771</td>


      </tr>

    <tr>
            <td style="text-align:center">2020-06-30</td>


            <td style="text-align:center">$6,036</td>


      </tr>

    <tr>
            <td style="text-align:center">2020-03-31</td>


            <td style="text-align:center">$5,985</td>


      </tr>

    <tr>
            <td style="text-align:center">2019-12-31</td>


            <td style="text-align:center">$7,384</td>


      </tr>

    <tr>
            <td style="text-align:center">2019-09-30</td>


            <td style="text-align:center">$6,303</td>


      </tr>

    <tr>
            <td style="text-align:center">2019-06-30</td>


            <td style="text-align:center">$6,350</td>


      </tr>
```

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          <tr>
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                          <td style="text-align:center">$4,541</td>



            </tr>

          <tr>
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                          <td style="text-align:center">$7,226</td>



            </tr>

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                          <td style="text-align:center">$6,824</td>



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            </tr>

          <tr>
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                <td style="text-align:center">$1,214</td>


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<tr>
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<tr>
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<tr>
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  </tr>

<tr>
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  </tr>

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<tr>
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<tr>
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        </div>


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                                <thead>
                                  <tr>
                                        <th style="text-align:center">Sector</th>
                                        <th style="text-align:center">Industry</th>
                                        <th style="text-align:center">Market Cap</th>
                                        <th style="text-align:center">Revenue</th>
                                  </tr>
                                </thead>
                                <tbody>
                                  <tr>
                                        <td style="text-align:center"><a href="https://www.macrotrends.net/stocks/sector/5/auto-tires-truc
ks">Auto/Tires/Trucks</a></td>
```

```
                                                <td style="text-align:center"><a href="https://www.macrotrends.net/stocks/industry/7/">Auto Manufa
cturers - Domestic</a></td>
                                                <td style="text-align:center">$549.575B</td>
                                                <td style="text-align:center">$53.823B</td>
                                </tr>
                                <tr>
                                        <td colspan="4" style="padding:15px;">
                                                <span>Tesla is the market leader in battery-powered electric car sales in the United State
s, with roughly 70% market share. The company's flagship Model 3 is the best-selling EV model in the United States. Tesla, which has manag
ed to garner the reputation of a gold standard over the years, is now a far bigger entity that what it started off since its IPO in 2010,
with its market cap crossing $1 trillion for the first time in October 2021.? The EV king's market capitalization is more than the combine
d value of legacy automakers including Toyota, Volkswagen, Daimler, General Motors and Ford.Over the years, Tesla has shifted from develop
ing niche products for affluent buyers to making more affordable EVs for the masses. The firm's three-pronged business model approach of d
irect sales, servicing, and charging its EVs sets it apart from other carmakers. Tesla, which is touted as the clean energy revolutionary
automaker, is much more than just a car manufacturer.</span>
                                                </td>
                                </tr>
                        </tbody>
                </table>
        </div>


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                          <tr>
                                <th style="text-align:center; width:40%;">Stock Name</th>
                                <th style="text-align:center; width:20%;">Country</th>
                                <th style="text-align:center; width:20%;">Market Cap</th>
                                <th style="text-align:center; width:20%;">PE Ratio</th>
                          </tr>
                        </thead>
                        <tbody>


                          <tr>
                                <td style="text-align:left"><a href="/stocks/charts/GM/general-motors/revenue">General Motors (GM)
</a></td>
                                <td style="text-align:center">United States</td>
                                <td style="text-align:center">$53.930B</td>
                                <td style="text-align:center">5.56</td>
                          </tr>


                          <tr>
                                <td style="text-align:left"><a href="/stocks/charts/F/ford-motor/revenue">Ford Motor (F)</a></td>
                                <td style="text-align:center">United States</td>
                                <td style="text-align:center">$52.668B</td>
                                <td style="text-align:center">8.09</td>
                          </tr>


                          <tr>
                                <td style="text-align:left"><a href="/stocks/charts/HOG/harley-davidson/revenue">Harley-Davidson
(HOG)</a></td>
                                <td style="text-align:center">United States</td>
                                <td style="text-align:center">$6.762B</td>
                                <td style="text-align:center">9.56</td>
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                          <tr>
                                <td style="text-align:left"><a href="/stocks/charts/PII/polaris/revenue">Polaris (PII)</a></td>
                                <td style="text-align:center">United States</td>
                                <td style="text-align:center">$6.267B</td>
                                <td style="text-align:center">11.86</td>
                          </tr>


                          <tr>
                                <td style="text-align:left"><a href="/stocks/charts/IAA/iaa/revenue">IAA (IAA)</a></td>
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                                <td style="text-align:center">$5.134B</td>
                                <td style="text-align:center">16.40</td>
                          </tr>
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                                                    <td style="text-align:left"><a href="/stocks/charts/FSR/fisker/revenue">Fisker (FSR)</a></td>
                                                    <td style="text-align:center">United States</td>
                                                    <td style="text-align:center">$2.261B</td>
                                                    <td style="text-align:center">0.00</td>
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                                            <tr>
                                                    <td style="text-align:left"><a href="/stocks/charts/LEV/lion-electric/revenue">Lion Electric (LEV)
        </a></td>

                                                    <td style="text-align:center">Canada</td>
                                                    <td style="text-align:center">$0.551B</td>
                                                    <td style="text-align:center">0.00</td>
                                             </tr>


                                            <tr>
                                                    <td style="text-align:left"><a href="/stocks/charts/VLTA/volta/revenue">Volta (VLTA)</a></td>
                                                    <td style="text-align:center">United States</td>
                                                    <td style="text-align:center">$0.071B</td>
                                                    <td style="text-align:center">0.00</td>
                                             </tr>


                                            <tr>
                                                    <td style="text-align:left"><a href="/stocks/charts/BRDS/bird-global/revenue">Bird Global (BRDS)</
        a></td>

                                                    <td style="text-align:center">United States</td>
                                                    <td style="text-align:center">$0.054B</td>
                                                    <td style="text-align:center">0.00</td>
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                                            <tr>
                                                    <td style="text-align:left"><a href="/stocks/charts/ZEV/lightning-emotors/revenue">Lightning EMoto
        rs (ZEV)</a></td>

                                                    <td style="text-align:center">United States</td>
                                                    <td style="text-align:center">$0.043B</td>
                                                    <td style="text-align:center">0.00</td>
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                                         </tbody>
                                    </table>

                             </div>


                             <div>

                             <!-- Partner Center Ad Unit -->
                             <div id="IC_728x214_1" style="width:728px; height:214px; margin-left:30px;">


                             </div>


                             </div>


                             </div>


                             <div "="" id="right_sidebar">

                                     <!--<a href="/stocks/stock-screener" style="text-decoration:none; color: #fff; ">
                                             <div style="margin:0px; padding: 20px; width:300px; background-color: #01579b; min-height:150px; t
        ext-align:center;">

                                                     <h2 style="font-weight:600;">Try our new<br />stock screener!</h2></a>

                                             </div>
                                     </a>-->

                                     <!--<div style="margin-top:0px; min-height:250px;">

                                             <script src='//ads.investingchannel.com/adtags/Macrotrends/fundamentalanalysis/300x600.js?zhpos=30
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```
0_2&multi_size=false' type='text/javascript' charset='utf-8'></script>

                                    </div>-->




                                    <div style="margin-top:0px; min-height:250px;">

                                            <div id="ic_300x250_1">


                                            </div>

                                    </div>

                                    <div id="sticky_ad_right" style="margin-top:30px; height:1000px;">

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ascript"></script>

                                            <div class="dianomi_context" data-dianomi-context-id="743"></div>

                                            <!-- <div id="IC_D_300x250_BCC"></div>-->

                                            <!--Smartad # 2981: Macrotrends - 300x670 Right Rail-->
                                            <iframe height="670" id="dianomi_sidebar" scrolling="NO" src="//www.dianomi.com/smartads.epl?id=40
59" style="width: 300px; border: none; overflow: hidden;" width="300"></iframe>

                                            <div id="IC_D_300x250_BCC"></div>


                                    </div>




                            </div>


                    </div>
                    </div>


<!--This is the div for the IC OOP ad-->
<div id="oopDivTag_1" style="width:1px;height:1px;"></div>


<footer class="footer">

                    <span>© 2010-2022 Macrotrends LLC</span>  |
                      <a href="/terms">Terms of Service</a>
                       |
                      <a href="/privacy">Privacy Policy</a>  |
                      <a href="mailto:%69n%66o@%6Dac%72otrends%2En%65t">Contact Us</a>  |
                      <a href="/ccpa">Do Not Sell My Personal Information</a>
                      <br/>
                      <span>Fundamental data from </span><a href="https://www.zacksdata.com" rel="nofollow" target="_blank">Zacks Investment R
esearch, Inc.</a>


</footer>

<div aria-hidden="true" aria-labelledby="exampleModalLabel" class="modal" id="smallWidthModal1" role="dialog" tabindex="-1">
  <div class="modal-dialog modal-lg">
    <div class="modal-content">
      <div class="modal-body">

                <div class="modal_title"><h2><strong>We Need Your Support!</strong></h2></div>

                <p>Backlinks from other websites are the lifeblood of our site and a primary source of new traffic.</p><p>

</p><p>If you use our chart images on your site or blog, we ask that you provide attribution via a "dofollow" link back to this page.  We
have provided a few examples below that you can copy and paste to your site:</p>

<br/>

<table class="table">
<thead>
<tr>
```

```html
<th>Link Preview</th>
<th>HTML Code (Click to Copy)</th>
</tr>
</thead>
<tbody>
<tr>
<td><a>Tesla Revenue 2010-2022 | TSLA</a></td>
<td><input class="modal_link" size="60" type="text" value="&lt;a href='https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue'&gt;Te
sla Revenue 2010-2022 | TSLA&lt;/a&gt;"/></td>
</tr>
<tr>
<td><a>Macrotrends</a></td>
<td><input class="modal_link" size="60" type="text" value="&lt;a href='https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue'&gt;Ma
crotrends&lt;/a&gt;"/></td>
</tr>
<tr>
<td><a>Source</a></td>
<td><input class="modal_link" size="60" type="text" value="&lt;a href='https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue'&gt;So
urce&lt;/a&gt;"/></td>
</tr>



</tbody>
</table>

<br/>

<p style="text-align:center">Your image export is now complete.  Please check your download folder. </p>

      </div>
      <div class="modal-footer">
        <button class="btn btn-primary" data-dismiss="modal" type="button">Close Window</button>
      </div>
    </div>
  </div>
</div>


<div aria-hidden="true" aria-labelledby="exampleModalLabel" class="modal" id="smallWidthModal2" role="dialog" tabindex="-1">
  <div class="modal-dialog modal-lg">
    <div class="modal-content">
      <div class="modal-body">

              <div class="modal_title"><h2><strong>We Need Your Support!</strong></h2></div>

              <p>Backlinks from other websites are the lifeblood of our site and a primary source of new traffic.</p><p>

</p><p>If you use our datasets on your site or blog, we ask that you provide attribution via a "dofollow" link back to this page.  We have
provided a few examples below that you can copy and paste to your site:</p>

<br/>

<table class="table">
<thead>
<tr>
<th>Link Preview</th>
<th>HTML Code (Click to Copy)</th>
</tr>
</thead>
<tbody>
<tr>
<td><a>Tesla Revenue 2010-2022 | TSLA</a></td>
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sla Revenue 2010-2022 | TSLA&lt;/a&gt;"/></td>
</tr>
<tr>
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urce&lt;/a&gt;"/></td>
</tr>



</tbody>
</table>

<br/>
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              </div>
              <div class="modal-footer">
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              </div>
          </div>
        </div>
      </div>


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                      minLength: 1,
                      filter: false,  //Disables typeahead filter to just show everything in the results from the database
                      debug: false,
                      highlight: true,
                      maxItem: 10,
                      dynamic: true,
                      delay: 200,
                      searchOnFocus: true,
                      backdrop: {
                              "background-color": "#fff"
                      },
                      href: "{{url}}",
                      emptyTemplate: "no result for {{query}}",
                      display: ["name"],
                      source: {
                              users: {
                                      ajax: {
                                              url: '/assets/php/all_pages_query.php',
                                              data: {
                                                      q: '{{query}}'
                                              }
                                      }
                              }
                      }
              });
      </script>

      <script>

              // /*! js-cookie v3.0.0-rc.1 | MIT */
              // !function(e,t){"object"==typeof exports&&"undefined"!=typeof module?module.exports=t():"function"==typeof define&&define.amd?de
              fine(t):(e=e||self,function(){var n=e.Cookies,r=e.Cookies=t();r.noConflict=function(){return e.Cookies=n,r}}())}(this,function(){"use stri
              ct";function e(e){for(var t=1;t<arguments.length;t++){var n=arguments[t];for(var r in n)e[r]=n[r]}return e}var t={read:function(e){return
              e.replace(/(%[\dA-F]{2})+/gi,decodeURIComponent)},write:function(e){return encodeURIComponent(e).replace(/%(2[346BF]|3[AC-F]|40|5[BDE]|60|
              7[BCD])/g,decodeURIComponent)}};return function n(r,o){function i(t,n,i){if("undefined"!=typeof document){"number"==typeof(i=e({},o,i)).ex
              pires&&(i.expires=new Date(Date.now()+864e5*i.expires)),i.expires&&(i.expires=i.expires.toUTCString()),t=encodeURIComponent(t).replace(/%
              (2[346B]|5E|60|7C)/g,decodeURIComponent).replace(/[()]/g,escape),n=r.write(n,t);var c="";for(var u in i)i[u]&&(c+="; "+u,!0!==i[u]&&(c+
              ="="+i[u].split(";")[0]));return document.cookie=t+"="+n+c}return Object.create({set:i,get:function(e){if("undefined"!=typeof document&&
              (!arguments.length||e)){for(var n=document.cookie?document.cookie.split("; "):[],o={},i=0;i<n.length;i++){var c=n[i].split("="),u=c.slice
              (1).join("=");'"'==='u[0]&&(u=u.slice(1,-1));try{var f=t.read(c[0]);if(o[f]=r.read(u,f),e===f)break}catch(e){}}return e?o[e]:o}},remove:fun
              ction(t,n){i(t,"",e({},n,{expires:-1}))},withAttributes:function(t){return n(this.converter,e({},this.attributes,t))},withConverter:functi
              on(t){return n(e({},this.converter,t),this.attributes)}},{attributes:{value:Object.freeze(o)},converter:{value:Object.freeze(r)}})}(t,{pat
              h:"/"})});


              // // Cookie Settings
              // var maxCookieValue = 4, initCookie = 1, expirationDays = 1;
              // var cookieName = "session_pageviews";
              // var getCookie = Cookies.get(cookieName);

              // // Under the Hood
              // if (getCookie == null) {
                      // Cookies.set(cookieName, initCookie, { expires: expirationDays });
                      // console.log('Cookie set to value 1');
                      // $( "#ic_video_ad" ).append( "<div id=\"IC_D_3x6\" style=\"margin:30px;\"></div>" );
              // } else {
                      // if (getCookie >= initCookie && getCookie < maxCookieValue) {
                              // getCookie++;
                              // Cookies.set(cookieName, getCookie, { expires: expirationDays });
                              // console.log('Cookie incremented. New value is ' + getCookie);
                              // $( "#ic_video_ad" ).append( "<div id=\"IC_D_3x6\" style=\"margin:30px;\"></div>" );
                      // }
                      // else if (getCookie >= maxCookieValue && getCookie < 7) {
                              // getCookie++;
                              // Cookies.set(cookieName, getCookie, { expires: expirationDays });
                              // console.log('Cookie max allowed value reached. No video ads showing. New value is ' + getCookie);
                              // //Cookies.remove(cookieName);
                              // // if cookie is equal with the number you've set, then do something
                              // // hide an element, delete the cookie etc...
                      // }
```

```
                               // else if (getCookie >= 7) {
                                       // Cookies.remove(cookieName);
                                       // // if cookie is equal with the number you've set, then do something
                                       // // hide an element, delete the cookie etc...
                               // }
               // }

       </script>


       <script>




       $(document).ready(function() {

               var user_data = '171.76.81.154';          var country_code = 'United States';
               $.post('https://www.macrotrends.net/assets/php/user_frequency_tracking.php', {user_ip: user_data, user_country: country_code});

               // Selects all of the text in the chart export window when clicked
               $(".modal_link").focus(function() {
                       var $this = $(this);
                       $this.select();

                       // Work around Chrome's little problem
                       $this.mouseup(function() {
                               // Prevent further mouseup intervention
                               $this.unbind("mouseup");
                               return false;
                       });
               });


               $('[data-toggle="tooltip"]').tooltip();

           $('.statement_type_select').select2({

               theme: "classic",
               minimumResultsForSearch: 20

               });

           $('.frequency_select').select2({

               theme: "classic",
               minimumResultsForSearch: 20

               });


       });

       $( "#compareStocks" ).click(function() {


               window.location.href = '/stocks/stock-comparison?s=revenue&axis=single&comp=TSLA';


       });

       $( "#chartExport" ).click(function() {

                       window.$('#smallWidthModal1').modal();

                       //Turn off scroll bar for image export
                       chart.chartScrollbarSettings.enabled = false;
                       chart.validateNow();


                       chart.export.capture({},function() {
                               this.toPNG({},function(data) {
                                       // Download the image to the browser
                                       this.download( data, "image/png", "TSLA-revenue-2022-12-09-macrotrends.png" );

                                       });

                       //Turn scroll bar back on again
                       chart.chartScrollbarSettings.enabled = true;
                       chart.validateNow();

               });
```

```
        });

        $( ".statement_type_select" ).change(function() {

          window.location.href = 'https://testing.macrotrends.net/assets/php/income_statement_testing.php?t=ZEV&type=' + this.value + '&freq=Q';

        });

        $( ".frequency_select" ).change(function() {

          window.location.href = '/assets/php/new_chart_page.php?t=ZEV&type=revenue&freq=' + this.value;

        });

    </script>

    <!--<div class="modal" id="contribute_modal" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel" aria-hidden="false">
      <div class="modal-dialog modal-lg">
        <div class="modal-content">
          <div class="modal-body" style="margin:20px 40px 20px 40px; text-align:left;font-size:18px;">


    <div class="row">

    <div class="col-xs-6">

    <script src="https://donorbox.org/widget.js" paypalExpress="true"></script><iframe src="https://donorbox.org/embed/macrotrends-donations?h
    ide_donation_meter=true" height="685px" width="100%" style="max-width:500px; min-width:310px; max-height:none!important" seamless="seamles
    s" name="donorbox" frameborder="0" scrolling="no" allowpaymentrequest></iframe>

    </div>

    <div class="col-xs-6">

                    <div class="modal_title"><h1><strong>We Need Your Support!</strong></h1></div>

                    <p><strong>Macrotrends has been subscription-free since 2010 and we want to keep it that way.</strong></p>

    <p>Our goal has always been to serve as an easily accessible, high quality source of investment research for both professionals and amateu
    rs alike.</p>

    <p>Any amount that you can contribute will help ensure we can keep the site completely free for many years to come.</p>

    <p style="margin-top:20px;">Regards,</p>
    <p>The Macrotrends Team</p>

    </div>

    </div>

    </div>

          <div class="modal-footer" style="text-align:center;">
            <button type="button" class="btn btn-success" data-dismiss="modal">Maybe Next Time...</button>
          </div>
        </div>
      </div>
    </div>


    <script src="/ads.js" type="text/javascript"></script>

    <script>

    $(document).ready(function() {

            var botPattern = "(googlebot\/|Googlebot-Mobile|Googlebot-Image|Google favicon|Mediapartners-Google|bingbot|slurp|java|wget|curl|C
    ommons-HttpClient|Python-urllib|libwww|httpunit|nutch|phpcrawl|msnbot|jyxobot|FAST-WebCrawler|FAST Enterprise Crawler|biglotron|teoma|conv
    era|seekbot|gigablast|exabot|ngbot|ia_archiver|GingerCrawler|webmon |httrack|webcrawler|grub.org|UsineNouvelleCrawler|antibot|netresearchs
    erver|speedy|fluffy|bibnum.bnf|findlink|msrbot|panscient|yacybot|AISearchBot|IOI|ips-agent|tagoobot|MJ12bot|dotbot|woriobot|yanga|buzzbot|
    mlbot|yandexbot|purebot|Linguee Bot|Voyager|CyberPatrol|voilabot|baiduspider|citeseerxbot|spbot|twengabot|postrank|turnitinbot|scribdbot|p
    age2rss|sitebot|linkdex|Adidxbot|blekkobot|ezooms|dotbot|Mail.RU_Bot|discobot|heritrix|findthatfile|europarchive.org|NerdByNature.Bot|sist
    rix crawler|ahrefsbot|Aboundex|domaincrawler|wbsearchbot|summify|ccbot|edisterbot|seznambot|ec2linkfinder|gslfbot|aihitbot|intelium_bot|fa
    cebookexternalhit|yeti|RetrevoPageAnalyzer|lb-spider|sogou|lssbot|careerbot|wotbox|wocbot|ichiro|DuckDuckBot|lssrocketcrawler|drupact|webc
    ompanycrawler|acoonbot|openindexspider|gnam gnam spider|web-archive-net.com.bot|backlinkcrawler|coccoc|integromedb|content crawler spider|
    toplistbot|seokicks-robot|it2media-domain-crawler|ip-web-crawler.com|siteexplorer.info|elisabot|proximic|changedetection|blexbot|arabot|We
    SEE:Search|niki-bot|CrystalSemanticsBot|rogerbot|360Spider|psbot|InterfaxScanBot|Lipperhey SEO Service|CC Metadata Scaper|g00g1e.net|Grape
    shotCrawler|urlappendbot|brainobot|fr-crawler|binlar|SimpleCrawler|Livelapbot|Twitterbot|cXensebot|smtbot|bnf.fr_bot|A6-Indexer|ADmantX|Fa
    cebot|Twitterbot|OrangeBot|memorybot|AdvBot|MegaIndex|SemanticScholarBot|ltx71|nerdybot|xovibot|BUbiNG|Qwantify|archive.org_bot|Applebot|T
    weetmemeBot|crawler4j|findxbot|SemrushBot|yoozBot|lipperhey|y!j-asr|Domain Re-Animator Bot|AddThis)";

            var re = new RegExp(botPattern, 'i');
```

```
            if (re.test(navigator.userAgent)) {

            } else {

                    //Check to see whether they are running an ad blocker
                    if(document.getElementById('12mORwMnaEkJXlxz')){
                      var ad_blocker = 'N';
                    } else {
                      var ad_blocker = 'Y';
                    }

                    $.post('https://api.ipstack.com/check?access_key=14fe63e83d5cfefa0b3d4cec498479ba&output=json&fields=ip,continent_name,cou
ntry_name,region_name,city',
                    function(ip_data){

                            $.post('https://www.macrotrends.net/assets/php/page_view_tracking.php', {ip: ip_data.ip,continent: ip_data.contine
nt_name, country: ip_data.country_name, state: ip_data.region_name, city: ip_data.city, screen_width: screen.width, ads: ad_blocker, page_
type: 'stock'},
                                    function(data){
                                            /*
                                            if(data % 20 === 0) {

                                                    //$('#contribute_modal').modal();

                                            }
                                            */
                                    });

                    });

            }

    });


    $.post('https://api.ipstack.com/check?access_key=14fe63e83d5cfefa0b3d4cec498479ba&output=json&fields=ip,continent_name,country_name,region
_name,city',
    function(ip_data){

            $(".contribute_user_id").val(ip_data.ip);

    });

    $( ".donate_buttons" ).click(function() {

            var payment = $(this).attr("value");

            $.post('https://api.ipstack.com/check?access_key=14fe63e83d5cfefa0b3d4cec498479ba&output=json&fields=ip,continent_name,country_nam
e,region_name,city',
                    function(ip_data){

                    $.post('https://www.macrotrends.net/assets/php/page_view_tracking.php', {ip: ip_data.ip, paid: payment});

            });

    });

    </script>

    -->

    <script type="text/javascript">
    var clicky_site_ids = clicky_site_ids || [];
    clicky_site_ids.push(100827248);
    (function() {
      var s = document.createElement('script');
      s.type = 'text/javascript';
      s.async = true;
      s.src = '//static.getclicky.com/js';
      ( document.getElementsByTagName('head')[0] || document.getElementsByTagName('body')[0] ).appendChild( s );
    })();
    </script>
    <noscript><p><img alt="Clicky" height="1" src="//in.getclicky.com/100827248ns.gif" width="1"/></p></noscript>


    <!-- This site is converting visitors into subscribers and customers with OptinMonster - https://optinmonster.com -->
    <!-- <script type="text/javascript" src="https://a.omappapi.com/app/js/api.min.js" data-account="6392" data-user="15772" async></script> -
->
    <!-- / OptinMonster -->
```

```
</body></html>
```

Execute the following line to remove the comma and dollar sign from the `Revenue` column.

In [10]:
```python
read_html_pandas_data = pd.read_html(str(beautiful_soup))
tesla_revenue = read_html_pandas_data[1]
tesla_revenue["Date"] = tesla_revenue[['Tesla Quarterly Revenue(Millions of US $)']]
tesla_revenue["Revenue"] = tesla_revenue[['Tesla Quarterly Revenue(Millions of US $).1']]
tesla_revenue
new_tesla_revenue = tesla_revenue[["Date", "Revenue"]]
new_tesla_revenue
```

Out[10]:

	Date	Revenue
0	2022-09-30	$21,454
1	2022-06-30	$16,934
2	2022-03-31	$18,756
3	2021-12-31	$17,719
4	2021-09-30	$13,757
5	2021-06-30	$11,958
6	2021-03-31	$10,389
7	2020-12-31	$10,744
8	2020-09-30	$8,771
9	2020-06-30	$6,036
10	2020-03-31	$5,985
11	2019-12-31	$7,384
12	2019-09-30	$6,303
13	2019-06-30	$6,350
14	2019-03-31	$4,541
15	2018-12-31	$7,226
16	2018-09-30	$6,824
17	2018-06-30	$4,002
18	2018-03-31	$3,409
19	2017-12-31	$3,288
20	2017-09-30	$2,985
21	2017-06-30	$2,790
22	2017-03-31	$2,696
23	2016-12-31	$2,285
24	2016-09-30	$2,298
25	2016-06-30	$1,270
26	2016-03-31	$1,147
27	2015-12-31	$1,214
28	2015-09-30	$937
29	2015-06-30	$955
30	2015-03-31	$940
31	2014-12-31	$957
32	2014-09-30	$852
33	2014-06-30	$769
34	2014-03-31	$621
35	2013-12-31	$615
36	2013-09-30	$431
37	2013-06-30	$405
38	2013-03-31	$562
39	2012-12-31	$306
40	2012-09-30	$50
41	2012-06-30	$27
42	2012-03-31	$30
43	2011-12-31	$39
44	2011-09-30	$58
45	2011-06-30	$58
46	2011-03-31	$49
47	2010-12-31	$36
48	2010-09-30	$31
49	2010-06-30	$28

	Date	Revenue
50	2010-03-31	$21
51	2009-12-31	NaN
52	2009-09-30	$46
53	2009-06-30	$27

```
In [11]:  tesla_revenue["Revenue"] = tesla_revenue['Revenue'].str.replace(',|\$',"")
```

```
/tmp/wsuser/ipykernel_1680/349343550.py:1: FutureWarning: The default value of regex will change from True to False in a future version.
  tesla_revenue["Revenue"] = tesla_revenue['Revenue'].str.replace(',|\$',"")
```

Execute the following lines to remove an null or empty strings in the Revenue column.

```
In [12]:  new_tesla_revenue.dropna(inplace=True)

          new_tesla_revenue = new_tesla_revenue[new_tesla_revenue['Revenue'] != ""]
```

```
/tmp/wsuser/ipykernel_1680/3247749724.py:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  new_tesla_revenue.dropna(inplace=True)
```

Display the last 5 row of the `tesla_revenue` dataframe using the `tail` function. Take a screenshot of the results.

```
In [13]:  new_tesla_revenue.tail()
```

Out[13]:

	Date	Revenue
48	2010-09-30	$31
49	2010-06-30	$28
50	2010-03-31	$21
52	2009-09-30	$46
53	2009-06-30	$27

Question 3: Use yfinance to Extract Stock Data

Using the `Ticker` function enter the ticker symbol of the stock we want to extract data on to create a ticker object. The stock is GameStop and its ticker symbol is `GME`.

```
In [14]:  gamestock = yf.Ticker("GME")
```

Using the ticker object and the function `history` extract stock information and save it in a dataframe named `gme_data`. Set the `period` parameter to `max` so we get information for the maximum amount of time.

```
In [15]:  gme_data = gamestock.history(period="max")
```

Reset the index using the `reset_index(inplace=True)` function on the gme_data DataFrame and display the first five rows of the `gme_data` dataframe using the `head` function. Take a screenshot of the results and code from the beginning of Question 3 to the results below.

```
In [16]:  gme_data.reset_index(inplace=True)
          gme_data.head()
```

Out[16]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2002-02-13	1.620128	1.693350	1.603296	1.691667	76216000	0.0	0.0
1	2002-02-14	1.712707	1.716074	1.670626	1.683250	11021600	0.0	0.0
2	2002-02-15	1.683250	1.687458	1.658001	1.674834	8389600	0.0	0.0
3	2002-02-19	1.666417	1.666417	1.578047	1.607504	7410400	0.0	0.0
4	2002-02-20	1.615920	1.662210	1.603296	1.662210	6892800	0.0	0.0

Question 4: Use Webscraping to Extract GME Revenue Data

Use the `requests` library to download the webpage https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/stock.html. Save the text of the response as a variable named `html_data`.

```
In [17]:  url = ' https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/s
```

```
data   = requests.get(url).text
```

Parse the html data using `beautiful_soup` .

In [18]:
```
beautiful_soup = BeautifulSoup(data, 'html5lib')
```

Using `BeautifulSoup` or the `read_html` function extract the table with `GameStop Revenue` and store it into a dataframe named `gme_revenue` . The dataframe should have columns `Date` and `Revenue` . Make sure the comma and dollar sign is removed from the `Revenue` column using a method similar to what you did in Question 2.

▶ Click here if you need help locating the table

In [19]:
```
read_html_pandas_data = pd.read_html(str(beautiful_soup))
gme_revenue = read_html_pandas_data[1]
gme_revenue["Date"] = gme_revenue["GameStop Quarterly Revenue(Millions of US $)"]
gme_revenue["Revenue"] = gme_revenue["GameStop Quarterly Revenue(Millions of US $).1"]
gme_revenue
new_gme_revenue = gme_revenue[["Date", "Revenue"]]
new_gme_revenue
```

Out[19]:

	Date	Revenue
0	2020-04-30	$1,021
1	2020-01-31	$2,194
2	2019-10-31	$1,439
3	2019-07-31	$1,286
4	2019-04-30	$1,548
...	...	...
57	2006-01-31	$1,667
58	2005-10-31	$534
59	2005-07-31	$416
60	2005-04-30	$475
61	2005-01-31	$709

62 rows × 2 columns

Display the last five rows of the `gme_revenue` dataframe using the `tail` function. Take a screenshot of the results.

In [20]:
```
new_gme_revenue["Revenue"] = new_gme_revenue['Revenue'].str.replace(',|\$',"")
new_gme_revenue.dropna(inplace=True)
new_gme_revenue = new_gme_revenue[new_gme_revenue['Revenue'] != ""]
new_gme_revenue.tail()
```

```
/tmp/wsuser/ipykernel_1680/60348673.py:1: FutureWarning: The default value of regex will change from True to False in a future version.
  new_gme_revenue["Revenue"] = new_gme_revenue['Revenue'].str.replace(',|\$',"")
/tmp/wsuser/ipykernel_1680/60348673.py:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  new_gme_revenue["Revenue"] = new_gme_revenue['Revenue'].str.replace(',|\$',"")
/tmp/wsuser/ipykernel_1680/60348673.py:2: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  new_gme_revenue.dropna(inplace=True)
```
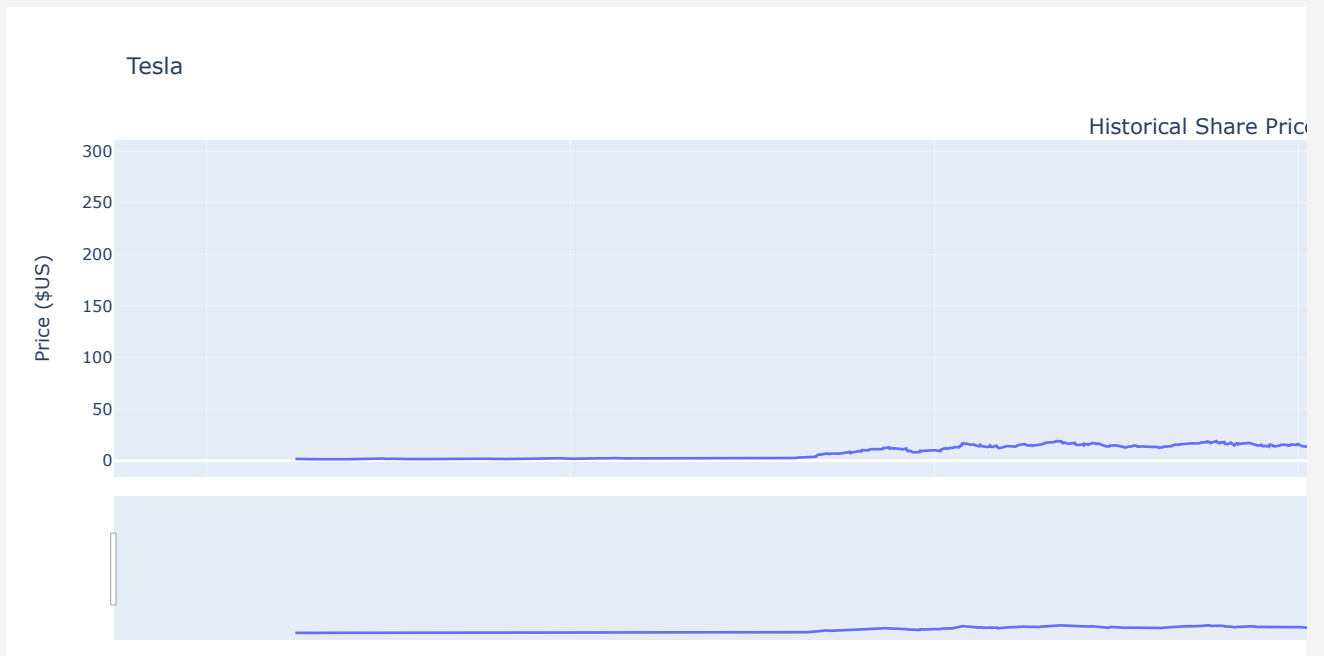
Out[20]:

	Date	Revenue
57	2006-01-31	1667
58	2005-10-31	534
59	2005-07-31	416
60	2005-04-30	475
61	2005-01-31	709

Question 5: Plot Tesla Stock Graph

Use the `make_graph` function to graph the Tesla Stock Data, also provide a title for the graph. The structure to call the `make_graph` function is `make_graph(tesla_data, tesla_revenue, 'Tesla')` . Note the graph will only show data upto June 2021.

```
In [21]:  make_graph(tesla_data, tesla_revenue, 'Tesla')
```


Question 6: Plot GameStop Stock Graph

Use the `make_graph` function to graph the GameStop Stock Data, also provide a title for the graph. The structure to call the `make_graph` function is `make_graph(gme_data, gme_revenue, 'GameStop')`. Note the graph will only show data upto June 2021.

```
In [22]:  make_graph(gme_data, gme_revenue, 'GameStop')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Input In [22], in <cell line: 1>()
----> 1 make_graph(gme_data, gme_revenue, 'GameStop')

Input In [3], in make_graph(stock_data, revenue_data, stock)
      4 revenue_data_specific = revenue_data[revenue_data.Date <= '2021-04-30']
      5 fig.add_trace(go.Scatter(x=pd.to_datetime(stock_data_specific.Date, infer_datetime_format=True), y=stock_data_specific.Close.astyp
e("float"), name="Share Price"), row=1, col=1)
----> 6 fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data_specific.Date, infer_datetime_format=True), y=revenue_data_specific.Revenu
e.astype("float"), name="Revenue"), row=2, col=1)
      7 fig.update_xaxes(title_text="Date", row=1, col=1)
      8 fig.update_xaxes(title_text="Date", row=2, col=1)

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/generic.py:5912, in NDFrame.astype(self, dtype, copy, errors)
   5905     results = [
   5906         self.iloc[:, i].astype(dtype, copy=copy)
   5907         for i in range(len(self.columns))
   5908     ]
   5910 else:
   5911     # else, only a single dtype is given
-> 5912     new_data = self._mgr.astype(dtype=dtype, copy=copy, errors=errors)
   5913     return self._constructor(new_data).__finalize__(self, method="astype")
   5915 # GH 33113: handle empty frame or series

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/internals/managers.py:419, in BaseBlockManager.astype(self, dtyp
e, copy, errors)
    418 def astype(self: T, dtype, copy: bool = False, errors: str = "raise") -> T:
--> 419     return self.apply("astype", dtype=dtype, copy=copy, errors=errors)

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/internals/managers.py:304, in BaseBlockManager.apply(self, f, al
ign_keys, ignore_failures, **kwargs)
    302         applied = b.apply(f, **kwargs)
    303     else:
--> 304         applied = getattr(b, f)(**kwargs)
    305 except (TypeError, NotImplementedError):
    306     if not ignore_failures:

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/internals/blocks.py:580, in Block.astype(self, dtype, copy, erro
rs)
    562     """
    563     Coerce to the new dtype.
    564
    (...)
    576     Block
    577     """
    578     values = self.values
--> 580     new_values = astype_array_safe(values, dtype, copy=copy, errors=errors)
    582     new_values = maybe_coerce_values(new_values)
    583     newb = self.make_block(new_values)

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/dtypes/cast.py:1292, in astype_array_safe(values, dtype, copy, e
rrors)
   1289     dtype = dtype.numpy_dtype
   1291 try:
-> 1292     new_values = astype_array(values, dtype, copy=copy)
   1293 except (ValueError, TypeError):
   1294     # e.g. astype_nansafe can fail on object-dtype of strings
   1295     #  trying to convert to float
   1296     if errors == "ignore":

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/dtypes/cast.py:1237, in astype_array(values, dtype, copy)
   1234     values = values.astype(dtype, copy=copy)
   1236 else:
-> 1237     values = astype_nansafe(values, dtype, copy=copy)
   1239 # in pandas we don't store numpy str dtypes, so convert to object
   1240 if isinstance(dtype, np.dtype) and issubclass(values.dtype.type, str):

File /opt/conda/envs/Python-3.10/lib/python3.10/site-packages/pandas/core/dtypes/cast.py:1181, in astype_nansafe(arr, dtype, copy, skipna)
   1177     raise ValueError(msg)
   1179 if copy or is_object_dtype(arr.dtype) or is_object_dtype(dtype):
   1180     # Explicit copy, or required since NumPy can't view from / to object.
-> 1181     return arr.astype(dtype, copy=True)
   1183 return arr.astype(dtype, copy=copy)

ValueError: could not convert string to float: '$1,021'
```

Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2022-02-28	1.2	Lakshmi Holla	Changed the URL of GameStop

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2020-11-10	1.1	Malika Singla	Deleted the Optional part
2020-08-27	1.0	Malika Singla	Added lab to GitLab

In [ ]: `!pip list`

In [ ]: `pip install --upgrade nbformat`

In [ ]: