

```
import pandas as pd
import numpy as np
import io
from google.colab import files
#@uploaded = files.upload()
```

```
#df = pd.read_csv(io.BytesIO(uploaded['B-USD.csv']))
```

```
import pandas as pd
```

```
# Downloading the csv file from your GitHub account
```

```
url1 = "https://raw.githubusercontent.com/jim-cassidy/ecoins-trends/master/data/LTC-USD.csv"
url2 = "https://raw.githubusercontent.com/jim-cassidy/ecoins-trends/master/data/BTC-USD.csv"
url3 = "https://raw.githubusercontent.com/jim-cassidy/ecoins-trends/master/data/ETH-USD.csv"
url4 = "https://raw.githubusercontent.com/jim-cassidy/ecoins-trends/master/data/ADA-USD.csv"
```

```
df1 = pd.read_csv(url1)
df2 = pd.read_csv(url2)
df3 = pd.read_csv(url3)
df4 = pd.read_csv(url4)
```

```
my_array1 = df1.to_numpy()
my_array2 = df2.to_numpy()
my_array3 = df3.to_numpy()
my_array4 = df4.to_numpy()
```

```
newarray1 = np.empty((0,2),float)
newarray2 = np.empty((0,2),float)
newarray3 = np.empty((0,2),float)
newarray4 = np.empty((0,2),float)
```

```
for x in my_array1:
#   print (x[3])
    newarray1 = np.append(newarray1, np.array([x[3]]))
    last = x[3]
```

```
for x in my_array2:  
    # print (x[3])  
    newarray2 = np.append(newarray2, np.array([x[3]]))  
    last = x[3]
```

```
for x in my_array3:  
    # print (x[3])  
    newarray3 = np.append(newarray3, np.array([x[3]]))  
    last = x[3]
```

```
for x in my_array4:  
    # print (x[3])  
    newarray4 = np.append(newarray4, np.array([x[3]]))  
    last = x[3]
```

```
newarray1 = np.diff(newarray1) / newarray1[:-1]  
newarray2 = np.diff(newarray2) / newarray2[:-1]  
newarray3 = np.diff(newarray3) / newarray3[:-1]  
newarray4 = np.diff(newarray4) / newarray4[:-1]
```

```
a = np.array([100,105,100,95,100], dtype=float)
```

```
import matplotlib.pyplot as plt
```

```
x = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]
```

```
y1 = newarray1  
y2 = newarray2  
y3 = newarray3  
y4 = newarray4
```

```
plt.plot(x, y1, label="Litecoin")  
plt.plot(x, y2, label="Bitcoin")  
plt.plot(x, y3, label="Ethereum")  
plt.plot(x, y4, label="Cardano")  
plt.plot()
```

```
plt.xlabel("x axis")  
plt.ylabel("y axis")
```

```
plt.title("Comparison of cryptocurrencies")  
plt.legend()  
plt.show()
```