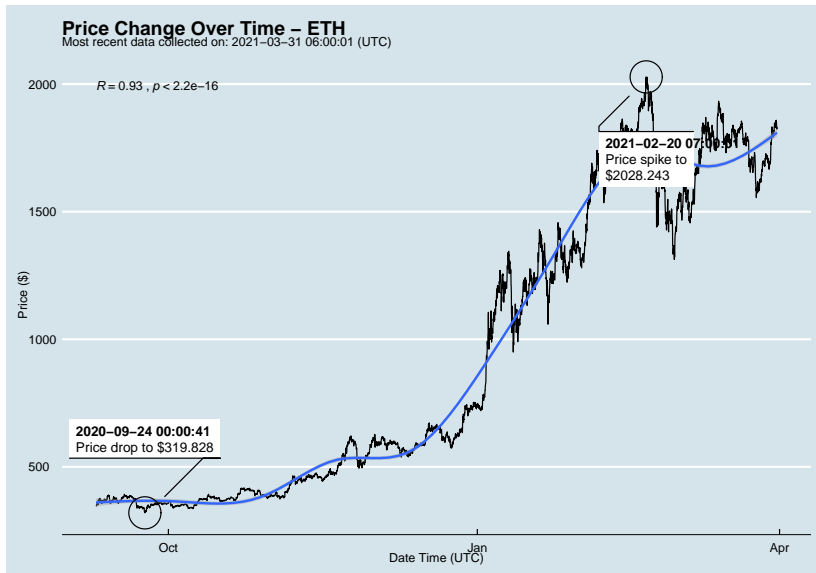# R Markdown Output

Last run on: 2021-03-31 06:15:05

2021-03-31 06:15:05

Overview

This document has code embedded throughout. In the next section we will create a visualization using the already loaded dataset eth_data:

```
datatable(eth_data)
```

Price Chart - Ethereum

Price Change Over Time – ETH
Most recent data collected on: 2021–03–31 06:00:01 (UTC)

$R = 0.93$, $p < 2.2e{-}16$

2021–02–20 07:00:41
Price spike to $2028.243

2020–09–24 00:00:41
Price drop to $319.828

Price ($)

Date Time (UTC)

Oct   Jan   Apr

Python Code Example

```python
import pandas as pd
# Create the Python object from R
df = r.cryptodata
# Show the new Python dataframe
df
```

```
##           pair  symbol  ask_1_price        date_time_utc
## 0        BTCUSD    BTC     58697.920  2021-03-31 06:00:01
## 1        ETHUSD    ETH      1831.371  2021-03-31 06:00:01
## 2        BTCUSD    BTC     58714.640  2021-03-31 05:00:01
## 3        ETHUSD    ETH      1824.932  2021-03-31 05:00:01
## 4        BTCUSD    BTC     58616.000  2021-03-31 04:00:01
## ...        ...    ...           ...                  ...
## 10301    BTCUSD    BTC     11972.900  2020-08-10 06:03:50
## 10302    BTCUSD    BTC     11985.890  2020-08-10 05:03:48
## 10303    BTCUSD    BTC     11997.470  2020-08-10 04:32:55
## 10304    BTCUSD    BTC     10686.880                  NaT
## 10305    ETHUSD    ETH       357.844                  NaT
```

One more Python example

The code below creates a new column `price_percentile` that specifies if the price for the row was in the upper or lower 50th percentile of prices (BTC should be upper and ETH lower):

```python
import numpy as np
# Create a new column based on the ask_1_price value:
df['price_percentile'] = np.where(df['ask_1_price'] >
                            np.percentile(df['ask_1_p
                    'upper 50th percentile of price
                    'lower 50th percentile of price
# Show modified dataframe:
df[['symbol', 'ask_1_price', 'price_percentile']]
```

```
##      symbol  ask_1_price                    price_percenti
## 0       BTC    58697.920  upper 50th percentile of pric
## 1       ETH     1831.371  lower 50th percentile of pric
## 2       BTC    58714.640  upper 50th percentile of pric
## 3       ETH     1824.932  lower 50th percentile of pric
## 4       BTC    58616.000  upper 50th percentile of pric
```