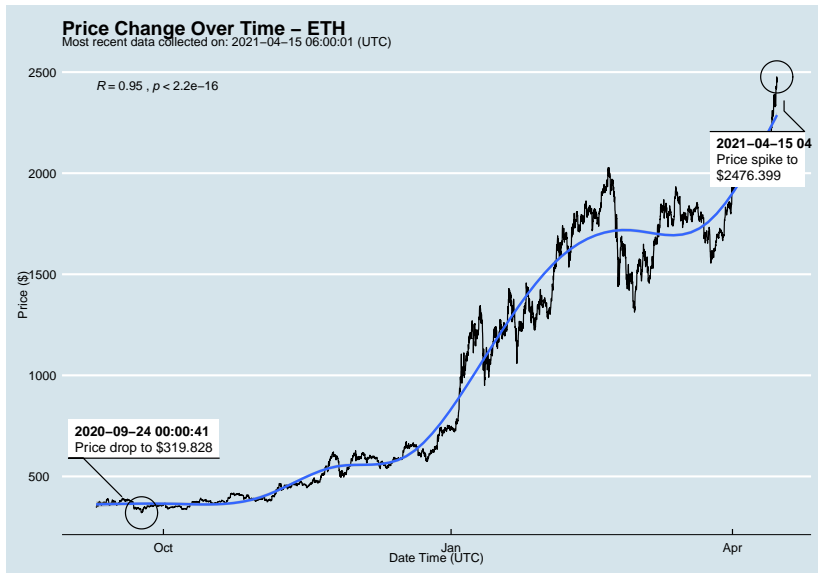# R Markdown Output

Last run on: 2021-04-15 06:14:58

2021-04-15 06:14:58

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: 2021–04–15 06:00:01 (UTC)

$R = 0.95$, $p < 2.2e{-}16$

2021–04–15 04
Price spike to
$2476.399

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    63100.000  2021-04-15 06:00:01
## 1        ETHUSD     ETH     2470.446  2021-04-15 06:00:01
## 2        BTCUSD     BTC    62960.010  2021-04-15 05:00:01
## 3        ETHUSD     ETH     2450.361  2021-04-15 05:00:01
## 4        BTCUSD     BTC    63050.000  2021-04-15 04:00:01
## ...         ...     ...          ...                  ...
## 11021    BTCUSD     BTC    11972.900  2020-08-10 06:03:50
## 11022    BTCUSD     BTC    11985.890  2020-08-10 05:03:48
## 11023    BTCUSD     BTC    11997.470  2020-08-10 04:32:55
## 11024    BTCUSD     BTC    10686.880                  NaT
## 11025    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   63100.000  upper 50th percentile of pric
## 1       ETH    2470.446  lower 50th percentile of pric
## 2       BTC   62960.010  upper 50th percentile of pric
## 3       ETH    2450.361  lower 50th percentile of pric
## 4       BTC   63050.000  upper 50th percentile of pric
```