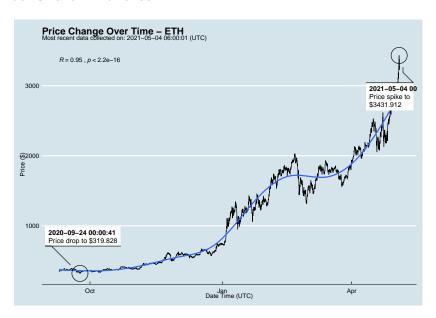# R Markdown Output

Last run on: 2021-05-04 06:13:21

2021-05-04 06:13:21

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: 2021–05–04 06:00:01 (UTC)

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

2021–05–04 00
Price spike to
$3431.912

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       ETHUSD    ETH     3379.904  2021-05-04 06:00:01
## 1       BTCUSD    BTC    55999.190  2021-05-04 06:00:00
## 2       BTCUSD    BTC    55820.730  2021-05-04 05:00:01
## 3       ETHUSD    ETH     3346.473  2021-05-04 05:00:01
## 4       ETHUSD    ETH     3233.127  2021-05-04 04:00:01
## ...        ...    ...          ...                  ...
## 11931   BTCUSD    BTC    11972.900  2020-08-10 06:03:50
## 11932   BTCUSD    BTC    11985.890  2020-08-10 05:03:48
## 11933   BTCUSD    BTC    11997.470  2020-08-10 04:32:55
## 11934   BTCUSD    BTC    10686.880                  NaT
## 11935   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       ETH     3379.904   lower 50th percentile of pric
## 1       BTC    55999.190   upper 50th percentile of pric
## 2       BTC    55820.730   upper 50th percentile of pric
## 3       ETH     3346.473   lower 50th percentile of pric
## 4       ETH     3233.127   lower 50th percentile of pric
```