# R Markdown Output

## Last run on: 2020-12-16 04:49:56
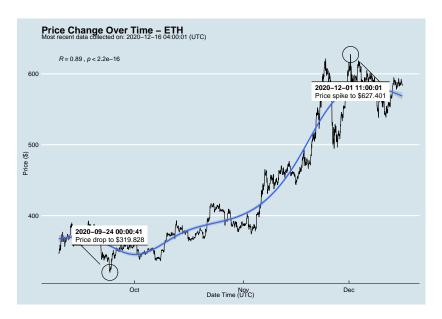
2020-12-16 04:49:56

# 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: 2020–12–16 04:00:01 (UTC)

$R = 0.89$ , $p < 2.2e{-}16$

**2020–12–01 11:00:01**
Price spike to $627.401

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

Price ($)

600

500

400

Oct          Nov          Dec
Date Time (UTC)

## 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      583.142  2020-12-16 04:00:01
## 1      BTCUSD    BTC    19346.120  2020-12-16 04:00:00
## 2      ETHUSD    ETH      585.586  2020-12-16 03:00:01
## 3      BTCUSD    BTC    19440.030  2020-12-16 03:00:00
## 4      ETHUSD    ETH      585.131  2020-12-16 02:00:01
## ...       ...    ...          ...                   ...
## 5261   BTCUSD    BTC    11972.900  2020-08-10 06:03:50
## 5262   BTCUSD    BTC    11985.890  2020-08-10 05:03:48
## 5263   BTCUSD    BTC    11997.470  2020-08-10 04:32:55
## 5264   BTCUSD    BTC    10686.880                   NaT
## 5265   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_percentil
## 0       ETH      583.142  lower 50th percentile of price
## 1       BTC    19346.120  upper 50th percentile of price
## 2       ETH      585.586  lower 50th percentile of price
## 3       BTC    19440.030  upper 50th percentile of price
## 4       ETH      585.131  lower 50th percentile of price
```