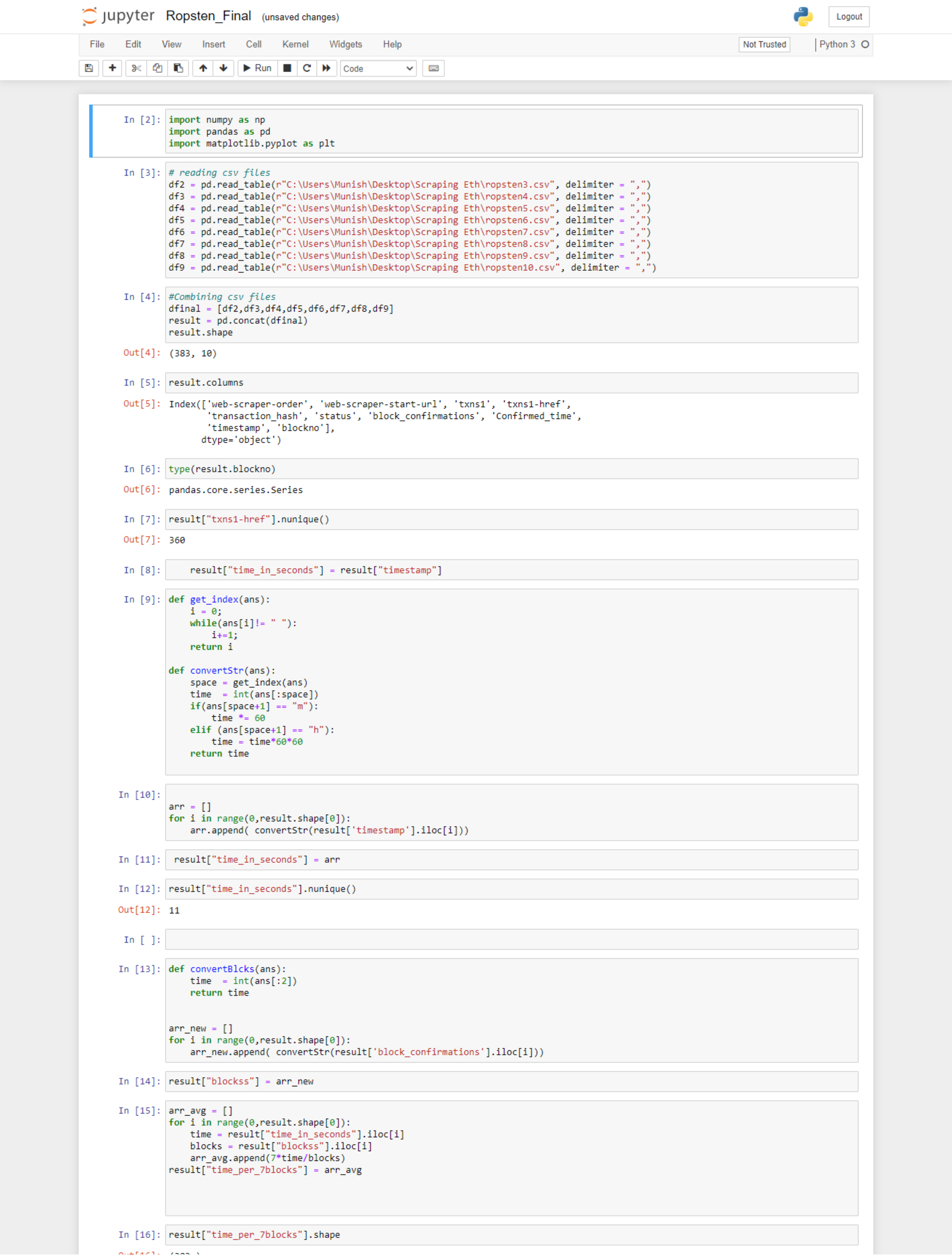


```
In [2]:  import numpy as np
         import pandas as pd
         import matplotlib.pyplot as plt

In [3]:  # reading csv files
         df2 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten3.csv", delimiter = ",")
         df3 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten4.csv", delimiter = ",")
         df4 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten5.csv", delimiter = ",")
         df5 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten6.csv", delimiter = ",")
         df6 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten7.csv", delimiter = ",")
         df7 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten8.csv", delimiter = ",")
         df8 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten9.csv", delimiter = ",")
         df9 = pd.read_table(r"C:\Users\Munish\Desktop\Scraping Eth\ropsten10.csv", delimiter = ",")

In [4]:  #Combining csv files
         dfinal = [df2,df3,df4,df5,df6,df7,df8,df9]
         result = pd.concat(dfinal)
         result.shape

Out[4]:  (383, 10)

In [5]:  result.columns

Out[5]:  Index(['web-scraper-order', 'web-scraper-start-url', 'txns1', 'txns1-href',
                'transaction_hash', 'status', 'block_confirmations', 'Confirmed_time',
                'timestamp', 'blockno'],
               dtype='object')

In [6]:  type(result.blockno)

Out[6]:  pandas.core.series.Series

In [7]:  result["txns1-href"].nunique()

Out[7]:  360

In [8]:      result["time_in_seconds"] = result["timestamp"]

In [9]:  def get_index(ans):
             i = 0;
             while(ans[i]!= " "):
                 i+=1;
             return i

         def convertStr(ans):
             space = get_index(ans)
             time  = int(ans[:space])
             if(ans[space+1] == "m"):
                 time *= 60
             elif (ans[space+1] == "h"):
                 time = time*60*60
             return time


In [10]: 
         arr = []
         for i in range(0,result.shape[0]):
             arr.append( convertStr(result['timestamp'].iloc[i]))

In [11]:  result["time_in_seconds"] = arr

In [12]: result["time_in_seconds"].nunique()

Out[12]: 11

In [ ]:  

In [13]: def convertBlcks(ans):
             time  = int(ans[:2])
             return time


         arr_new = []
         for i in range(0,result.shape[0]):
             arr_new.append( convertStr(result['block_confirmations'].iloc[i]))

In [14]: result["blockss"] = arr_new

In [15]: arr_avg = []
         for i in range(0,result.shape[0]):
             time = result["time_in_seconds"].iloc[i]
             blocks = result["blockss"].iloc[i]
             arr_avg.append(7*time/blocks)
         result["time_per_7blocks"] = arr_avg





In [16]: result["time_per_7blocks"].shape

Out[16]: (383,)
```

```
Out[16]: (383,)
```

```
In [17]: result.shape
```

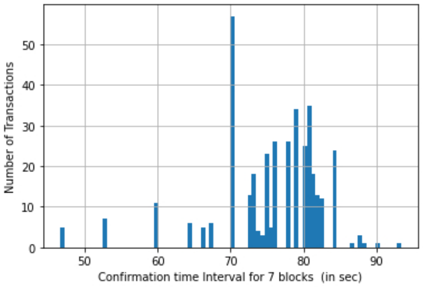
```
Out[17]: (383, 13)
```

```
In [18]: result["time_per_7blocks"].describe()
```

```
Out[18]: count    383.000000
         mean      75.527287
         std        7.386639
         min       46.666667
         25%       70.000000
         50%       77.777778
         75%       80.769231
         max       93.333333
         Name: time_per_7blocks, dtype: float64
```

```
In [19]: graph7 = result["time_per_7blocks"].hist(bins=80)
         graph7.set_xlabel("Confirmation time Interval for 7 blocks  (in sec)")
         graph7.set_ylabel("Number of Transactions")
```

```
Out[19]: Text(0, 0.5, 'Number of Transactions')
```



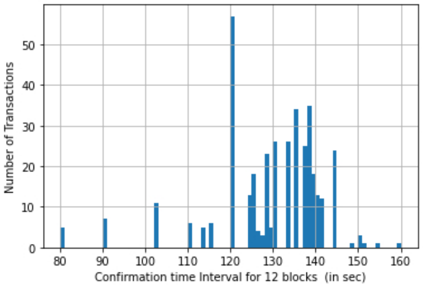
```
In [20]: arr_avg12 = []
         for i in range(0,result.shape[0]):
             time = result["time_in_seconds"].iloc[i]
             blocks = result["blockss"].iloc[i]
             arr_avg12.append(12*time/blocks)
         result["time_per_12blocks"] = arr_avg12
```

```
In [21]: result["time_per_12blocks"].describe()
```

```
Out[21]: count    383.000000
         mean     129.475349
         std       12.662810
         min       80.000000
         25%      120.000000
         50%      133.333333
         75%      138.461538
         max      160.000000
         Name: time_per_12blocks, dtype: float64
```

```
In [22]: graph12 = result["time_per_12blocks"].hist(bins=80)
         graph12.set_xlabel("Confirmation time Interval for 12 blocks  (in sec)")
         graph12.set_ylabel("Number of Transactions")
```

```
Out[22]: Text(0, 0.5, 'Number of Transactions')
```



```
In [ ]:
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In [ ]:
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In [ ]:
```