

rsk-nbcm

May 12, 2021

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[1]: import pandas as pd
import numpy as np
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[2]: data = pd.read_csv("h100000.csv", names=["time", "io", "type", "sz", "height"])
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[3]: data
```

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[3]:
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	time	io	type	sz	height
0	2021-05-12T17:03:38.692351Z	I	STATUS	82	-1
1	2021-05-12T17:03:38.699747Z	I	STATUS_MESSAGE	89	-1
2	2021-05-12T17:03:38.701878Z	O	STATUS	82	-1
3	2021-05-12T17:03:38.704212Z	O	STATUS_MESSAGE	89	-1
4	2021-05-12T17:03:39.090670Z	I	STATUS	82	-1
...
99995	2021-05-12T18:20:57.942337Z	I	PING	1	-1
99996	2021-05-12T18:20:57.942417Z	O	PONG	1	-1
99997	2021-05-12T18:20:58.064457Z	O	PING	1	-1
99998	2021-05-12T18:20:58.250691Z	I	PONG	1	-1
99999	2021-05-12T18:21:00.314981Z	O	PING	1	-1

[100000 rows x 5 columns]

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[4]: data.describe()
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[4]:
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	sz	height
count	100000.000000	1.000000e+05
mean	648.728870	8.270616e+03
std	5617.249267	1.230288e+05
min	1.000000	-1.000000e+00
25%	1.000000	-1.000000e+00
50%	42.000000	-1.000000e+00
75%	89.000000	-1.000000e+00
max	185006.000000	1.838191e+06

```
[5]: pd.pivot_table(data, values=["sz"], index=["type"], columns=["io"], aggfunc=np.
      ↳sum)
```

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[5]:
```

	sz	
io	I	0
type		
BLOCK_HASH_REQUEST_MESSAGE	NaN	1386.0
BLOCK_HASH_RESPONSE_MESSAGE	4576.0	NaN
BLOCK_HEADERS_REQUEST_MESSAGE	NaN	4573.0
BLOCK_HEADERS_RESPONSE_MESSAGE	17377839.0	NaN
BLOCK_MESSAGE	2595739.0	NaN
BODY_REQUEST_MESSAGE	NaN	739462.0
BODY_RESPONSE_MESSAGE	39069686.0	3030.0
DISCONNECT	4940.0	NaN
GET_BLOCK_MESSAGE	38.0	15504.0
NEW_BLOCK_HASHES	166797.0	NaN
PING	10035.0	10034.0
PONG	10025.0	10035.0
SKELETON_REQUEST_MESSAGE	NaN	638.0
SKELETON_RESPONSE_MESSAGE	40988.0	NaN
STATUS	202786.0	202622.0
STATUS_MESSAGE	266201.0	326452.0
TRANSACTIONS	3809501.0	NaN

```
[6]: pd.pivot_table(data, values=["sz"], index=["type"], aggfunc=np.sum)
```

```
[6]:
```

	sz
type	
BLOCK_HASH_REQUEST_MESSAGE	1386
BLOCK_HASH_RESPONSE_MESSAGE	4576
BLOCK_HEADERS_REQUEST_MESSAGE	4573
BLOCK_HEADERS_RESPONSE_MESSAGE	17377839
BLOCK_MESSAGE	2595739
BODY_REQUEST_MESSAGE	739462
BODY_RESPONSE_MESSAGE	39072716
DISCONNECT	4940
GET_BLOCK_MESSAGE	15542
NEW_BLOCK_HASHES	166797
PING	20069
PONG	20060
SKELETON_REQUEST_MESSAGE	638
SKELETON_RESPONSE_MESSAGE	40988
STATUS	405408
STATUS_MESSAGE	592653
TRANSACTIONS	3809501

```
[7]: data.plot(x="time", y="sz", figsize=(10,5))
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[7]: <AxesSubplot: xlabel='time'>
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