

```
In [299]: import pandas as pd
import datetime
import numpy as np
```

```
In [300]: df1 = pd.read_json("21FEB_ENTERED.json")
```

```
In [301]: df1
```

Out[301]:

	STATUS	occasionType	orderId	timestamp
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00
...
425	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00
426	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00
427	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00
428	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00
429	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00

430 rows × 4 columns

```
In [302]: df1.rename(columns = {'timestamp':'Entered_date_time'}, inplace = True)
```

```
In [303]: df1
```

Out[303]:

	STATUS	occasionType	orderID	Entered_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00
...
425	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00
426	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00
427	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00
428	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00
429	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00

430 rows × 4 columns

```
In [304]: df2 = pd.read_json("21FEB_INIT.json")
```

```
In [305]: df2
```

Out[305]:

	STATUS	occasionType	orderID	timestamp
0	INIT	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:45:48+00:00
1	INIT	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:12:21+00:00
2	INIT	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:00+00:00
3	INIT	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:25:41+00:00
4	INIT	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:31:22+00:00
...
426	INIT	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:36:02+00:00
427	INIT	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:56:18+00:00
428	INIT	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:08:43+00:00
429	INIT	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:09:11+00:00
430	INIT	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:07+00:00

431 rows × 4 columns

```
In [306]: df2.rename(columns = {'timestamp':'INIT_date_time'}, inplace = True)
```

In [307]: df2

Out[307]:

	STATUS	occasionType	orderID	INIT_date_time
0	INIT	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:45:48+00:00
1	INIT	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:12:21+00:00
2	INIT	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:00+00:00
3	INIT	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:25:41+00:00
4	INIT	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:31:22+00:00
...
426	INIT	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:36:02+00:00
427	INIT	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:56:18+00:00
428	INIT	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:08:43+00:00
429	INIT	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:09:11+00:00
430	INIT	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:07+00:00

431 rows × 4 columns

In [308]: df = pd.merge(df1, df2, on=["orderID"])

In [309]: df

Out[309]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 7 columns

In [310]: df['time_diff'] = df['Entered_date_time'] - df['INIT_date_time']

In [311]: df

Out[311]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 8 columns

```
In [312]: def my_func(x):
            y = str(x).split(":")
            _min = y[1]
            _sec = y[2].split("+")[0]
            return f'({_min}):({_sec})'
df['Order_time_in_Second'] = df['time_diff'].apply(my_func)
```

In [313]: df

Out[313]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 9 columns

```
In [314]: def year_month_day(date):
            return str(date).split(" ")[0]
df['order_date'] = df['INIT_date_time'].apply(year_month_day)
```

In [315]: df

Out[315]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 10 columns

In [316]: df['avg_order_time'] = pd.Series(pd.to_timedelta(df['time_diff'])).mean()

```
In [317]: df['avg_order_time']
```

```
Out[317]: 0      00:01:12.422413
          1      00:01:12.422413
          2      00:01:12.422413
          3      00:01:12.422413
          4      00:01:12.422413
          ...
          459    00:01:12.422413
          460    00:01:12.422413
          461    00:01:12.422413
          462    00:01:12.422413
          463    00:01:12.422413
          Name: avg_order_time, Length: 464, dtype: timedelta64[ns]
```



```
In [318]: df.drop(['time_diff'], axis = 1)
```

Out[318]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_t
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 10 columns

```
In [319]: def my_func(x):
            y = str(x).split(":")
            _min = y[1]
            _sec = y[2].split("+")[0]
            return f'{_min}:{_sec}'
df['avg_time'] = df['avg_order_time'].apply(my_func)
```

```
In [320]: df.drop(['avg_order_time'], axis = 1)
```

Out[320]:

	STATUS_x	occasionType_x	orderID	Entered_date_time	STATUS_y	occasionType_y	INIT_date_time
0	ENTERED	DRIVE_THRU	ca8c0f9c-e839-47c5-a243-244b3f352037	2021-02-21 15:46:00+00:00	INIT	DRIVE_THRU	2021-02-21 15:45:48+00:00
1	ENTERED	DRIVE_THRU	7ab146ef-c679-4df8-a38e-8a3bc9847cca	2021-02-21 18:13:33+00:00	INIT	DRIVE_THRU	2021-02-21 18:12:21+00:00
2	ENTERED	DRIVE_THRU	84fd4456-0cfb-4af8-9f82-3bfb8838efc4	2021-02-21 18:25:26+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:00+00:00
3	ENTERED	DRIVE_THRU	b0141e39-4303-46bd-8144-9493d08a6263	2021-02-21 18:26:02+00:00	INIT	DRIVE_THRU	2021-02-21 18:25:41+00:00
4	ENTERED	DRIVE_THRU	3c728c41-0cad-4455-b3e9-b55d78226e45	2021-02-21 18:30:43+00:00	INIT	DRIVE_THRU	2021-02-21 18:31:22+00:00
...
459	ENTERED	DRIVE_THRU	014e8582-a867-4030-b100-30e35c58178f	2021-02-22 09:39:24+00:00	INIT	DRIVE_THRU	2021-02-22 09:36:02+00:00
460	ENTERED	DRIVE_THRU	f5d54ea2-eed7-415f-b2aa-144fa65d32f8	2021-02-22 09:55:59+00:00	INIT	DRIVE_THRU	2021-02-22 09:56:18+00:00
461	ENTERED	DRIVE_THRU	19ebc78b-717b-454e-b9f1-8f50a45c8147	2021-02-22 10:09:11+00:00	INIT	DRIVE_THRU	2021-02-22 10:08:43+00:00
462	ENTERED	DRIVE_THRU	343eb2fc-2315-4aa8-ad1b-a1e18e84e22f	2021-02-22 10:40:12+00:00	INIT	DRIVE_THRU	2021-02-22 10:09:11+00:00
463	ENTERED	DRIVE_THRU	44e61c63-b947-4d53-aa72-f7ab78608a72	2021-02-22 10:47:33+00:00	INIT	DRIVE_THRU	2021-02-22 10:47:07+00:00

464 rows × 11 columns

```
In [321]: df.to_csv("21ST_FC_report.csv")
```

```
In [ ]:
```

