

In [1]:

```
import pandas as pd
hoursdf=pd.read_csv('time-data/281-time-2-04-2024.tsv', sep='\t')
hoursdf
```

Out[1]:

	Date	TYPE	Unnamed: 2	Unnamed: 3	PIN
0	1/13/2024 18:00:00	Out	NaN	NaN	Eagle
1	1/11/2024 20:04:41	Out	NaN	NaN	phoenix
2	1/20/2024 9:02:17	in	NaN	NaN	phoenix
3	1/18/2024 18:05:30	in	NaN	NaN	J.T.M.
4	1/8/2024 17:49:11	In	NaN	NaN	Ghost
...	...	...	...	...	...
477	2/3/2024 18:11:23	Out	NaN	NaN	s4dr4
478	2/3/2024 18:11:53	Out	NaN	NaN	Auditore
479	2/3/2024 18:15:38	Out	NaN	NaN	Fire3xit
480	2/3/2024 18:16:44	Out	NaN	NaN	Ghost
481	2/3/2024 18:46:52	Out	NaN	NaN	phoenix

482 rows × 5 columns

In [2]:

```
hoursdf.info()
hoursdf.head(5)
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 482 entries, 0 to 481
Data columns (total 5 columns):
#   Column          Non-Null Count  Dtype  
---  -
0   Date            482 non-null   object 
1   TYPE            482 non-null   object 
2   Unnamed: 2      0 non-null     float64 
3   Unnamed: 3      0 non-null     float64 
4   PIN             482 non-null   object 
dtypes: float64(2), object(3)
memory usage: 19.0+ KB
```

Out[2]:

	Date	TYPE	Unnamed: 2	Unnamed: 3	PIN
0	1/13/2024 18:00:00	Out	NaN	NaN	Eagle
1	1/11/2024 20:04:41	Out	NaN	NaN	phoenix
2	1/20/2024 9:02:17	in	NaN	NaN	phoenix
3	1/18/2024 18:05:30	in	NaN	NaN	J.T.M.
4	1/8/2024 17:49:11	In	NaN	NaN	Ghost

In [3]:

```
hoursdf['tstamp'] = pd.to_datetime(hoursdf.Date)
hoursdf['shopdate'] = hoursdf.tstamp.dt.strftime('%m-%d, %a')
hoursdf['shopday'] = hoursdf.tstamp.dt.strftime('%a')
```

In [4]:

```
hoursdf
```

Out[4]:

	Date	TYPE	Unnamed: 2	Unnamed: 3	PIN	tstamp	shopdate	shopday
0	1/13/2024 18:00:00	Out	NaN	NaN	Eagle	2024-01-13 18:00:00	01-13, Sat	Sat
1	1/11/2024 20:04:41	Out	NaN	NaN	phoenix	2024-01-11 20:04:41	01-11, Thu	Thu
2	1/20/2024 9:02:17	in	NaN	NaN	phoenix	2024-01-20 09:02:17	01-20, Sat	Sat
3	1/18/2024 18:05:30	in	NaN	NaN	J.T.M.	2024-01-18 18:05:30	01-18, Thu	Thu
4	1/8/2024 17:49:11	In	NaN	NaN	Ghost	2024-01-08 17:49:11	01-08, Mon	Mon
...	...	...	...	...	...	...	...	...
477	2/3/2024 18:11:23	Out	NaN	NaN	s4dr4	2024-02-03 18:11:23	02-03, Sat	Sat
478	2/3/2024 18:11:53	Out	NaN	NaN	Auditore	2024-02-03 18:11:53	02-03, Sat	Sat
479	2/3/2024 18:15:38	Out	NaN	NaN	Fire3xit	2024-02-03 18:15:38	02-03, Sat	Sat
480	2/3/2024 18:16:44	Out	NaN	NaN	Ghost	2024-02-03 18:16:44	02-03, Sat	Sat
481	2/3/2024 18:46:52	Out	NaN	NaN	phoenix	2024-02-03 18:46:52	02-03, Sat	Sat

482 rows × 8 columns

In [5]:

```
def shop_hours(s):
    seconds_this_day = (s.max() - s.min()).seconds/60
    minutes_this_day = seconds_this_day / 60
    if minutes_this_day == 0:
        minutes_this_day = 1.0
    return minutes_this_day
attendance = hoursdf.groupby(['PIN', 'shopdate']).agg( shop_hours=('tstamp', shop_hours))
attendance.reset_index()
```

Out[5]:

	PIN	shopdate	shop_hours
0	0016	01-08, Mon	2.031111
1	0016	01-10, Wed	1.995000
2	0016	01-11, Thu	2.026111
3	0016	01-13, Sat	5.175000
4	0016	01-20, Sat	4.718333
...	...	...	...
239	s4dr4	01-25, Thu	1.899167
240	s4dr4	01-27, Sat	9.003056
241	s4dr4	01-29, Mon	1.779167
242	s4dr4	02-01, Thu	3.003333
243	s4dr4	02-03, Sat	8.465833

244 rows × 3 columns

In [6]:

```
timesheet = attendance.pivot_table(index='PIN',columns='shopdate',values='shop_hours',fill_value=0,aggfunc='sum')
timesheet
```

Out[6]:

shopdate	01-08, Mon	01-10, Wed	01-11, Thu	01-13, Sat	01-15, Mon	01-17, Wed	01-18, Thu	01-20, Sat
PIN								
0016	2.031111	1.995000	2.026111	5.175000	0.000000	0.000000	0.000000	4.718750
0120	2.098889	0.000000	0.000000	3.187500	3.848889	2.153611	2.040000	4.375000
0305009	2.095000	0.000000	0.000000	7.808889	0.000000	0.000000	0.000000	6.750000
10Pulisc	1.537778	2.200833	2.078333	7.215556	5.630000	2.353611	2.089444	8.386111
1116	2.245000	1.481944	0.970000	5.465833	5.759167	2.156944	1.910833	8.238889
2314033333	2.017500	1.000000	0.000000	8.721389	3.476667	1.000000	0.000000	8.738889
Acrux	2.123056	0.000000	1.000000	4.128056	4.012500	0.000000	2.083333	3.585000
AdidaBoss	2.051667	0.000000	2.032500	3.205278	4.192778	2.253333	1.962222	2.039167
Auditore	2.273889	1.510556	2.074722	8.851111	3.245556	2.657222	2.039167	7.852778
BigTurtle	1.883056	1.835000	1.959444	0.000000	2.044167	2.065278	0.000000	0.000000
C8H10N4O2	2.129722	0.000000	0.000000	7.963056	3.542222	0.000000	0.000000	7.985000
Cade55	1.946111	2.179722	0.000000	7.330833	2.962500	2.118056	0.000000	4.605556
Eagle	2.103333	1.984722	0.788889	8.216111	6.555278	0.000000	0.735833	1.796667
Fire3xit	2.160833	0.000000	1.997778	8.952222	5.929444	0.000000	2.104444	8.943333
Ghost	2.369167	2.486667	2.733611	8.750556	6.031667	5.308611	2.578611	1.699167
J.T.M.	1.955000	0.995833	0.000000	0.000000	5.730000	2.180000	2.000000	6.490000
JeffBagels	1.944722	0.000000	2.380833	0.000000	4.332778	0.000000	0.000000	2.662778
Prani2K	1.000000	1.000000	0.000000	6.543333	0.000000	0.000000	0.000000	0.000000
S0134	1.898333	0.000000	0.000000	0.000000	3.732500	0.000000	1.397778	0.000000
YoungFlake	2.032500	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
fonderpole	2.056944	1.000000	0.000000	2.628333	0.000000	0.000000	0.000000	0.000000
phoenix	2.027778	1.820000	1.968056	9.009722	5.112500	1.000000	0.000000	9.000000
s4dr4	1.047778	1.814444	1.646389	5.605556	5.919167	2.152778	1.460000	4.443333

In [7]:

```

timesheet.loc['AVAILABLE'] = [2,2,2,9,2,2,2,9,2,2,2,9,2,2,9]
total_available_hours = timesheet.loc['AVAILABLE'].sum()
timesheet['student_total'] = timesheet.sum(axis=1)

#shop_available_hours = pd.DataFrame({
#    "date": [ "01/08", "01/10", "01/11", "01/13" ],
#    "hours": [ 2, 2, 2, 9 ]
#})

timesheet['student_percent'] = timesheet['student_total'] / total_available_hours
timesheet['student_percent_nice'] = timesheet['student_percent'].map('{:.2%}'.format)
timesheet.drop(columns='student_percent')

```

```
timesheet
```

Out[7]:

shopdate	01-08, Mon	01-10, Wed	01-11, Thu	01-13, Sat	01-15, Mon	01-17, Wed	01-18, Thu	01-20, Sat
PIN								
0016	2.031111	1.995000	2.026111	5.175000	0.000000	0.000000	0.000000	4.718889
0120	2.098889	0.000000	0.000000	3.187500	3.848889	2.153611	2.040000	4.375000
0305009	2.095000	0.000000	0.000000	7.808889	0.000000	0.000000	0.000000	6.750000
10Pulisc	1.537778	2.200833	2.078333	7.215556	5.630000	2.353611	2.089444	8.388889
1116	2.245000	1.481944	0.970000	5.465833	5.759167	2.156944	1.910833	8.238889
2314033333	2.017500	1.000000	0.000000	8.721389	3.476667	1.000000	0.000000	8.738889
Acrux	2.123056	0.000000	1.000000	4.128056	4.012500	0.000000	2.083333	3.583333
AdidaBoss	2.051667	0.000000	2.032500	3.205278	4.192778	2.253333	1.962222	2.039167
Auditore	2.273889	1.510556	2.074722	8.851111	3.245556	2.657222	2.039167	7.852778
BigTurtle	1.883056	1.835000	1.959444	0.000000	2.044167	2.065278	0.000000	0.000000
C8H10N4O2	2.129722	0.000000	0.000000	7.963056	3.542222	0.000000	0.000000	7.983333
Cade55	1.946111	2.179722	0.000000	7.330833	2.962500	2.118056	0.000000	4.605556
Eagle	2.103333	1.984722	0.788889	8.216111	6.555278	0.000000	0.735833	1.796667
Fire3xit	2.160833	0.000000	1.997778	8.952222	5.929444	0.000000	2.104444	8.943333
Ghost	2.369167	2.486667	2.733611	8.750556	6.031667	5.308611	2.578611	1.699167
J.T.M.	1.955000	0.995833	0.000000	0.000000	5.730000	2.180000	2.000000	6.490000
JeffBagels	1.944722	0.000000	2.380833	0.000000	4.332778	0.000000	0.000000	2.662778
Prani2K	1.000000	1.000000	0.000000	6.543333	0.000000	0.000000	0.000000	0.000000
S0134	1.898333	0.000000	0.000000	0.000000	3.732500	0.000000	1.397778	0.000000
YoungFlake	2.032500	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
fonderpole	2.056944	1.000000	0.000000	2.628333	0.000000	0.000000	0.000000	0.000000
phoenix	2.027778	1.820000	1.968056	9.009722	5.112500	1.000000	0.000000	9.000000
s4dr4	1.047778	1.814444	1.646389	5.605556	5.919167	2.152778	1.460000	4.443333
AVAILABLE	2.000000	2.000000	2.000000	9.000000	2.000000	2.000000	2.000000	9.000000

In [8]:

```
timesheet=timesheet.sort_values(by=['student_total'],ascending=False)
```

In [9]:

```
def color_code(val):  
    if val == 1.0:
```

```
        return "background-color: yellow;color:black;opacity:40%"
    elif val == 0:
        return "background-color: red;color:white;opacity:40%"
    else:
        return 'color: green;font-weight:bold'

timesheet=timesheet.transpose()
timesheet.style.format(precision=3).map(color_code)
#timesheet.style.background_gradient(cmap="Blues")
#timesheet.style.highlight_max()
```

Out[9]:

	PIN	AVAILABLE	Auditore	Fire3xit	phoenix	Ghost	s4dr4	1116	J.T
shopdate									
	01-08, Mon	2.000	2.274	2.161	2.028	2.369	1.048	2.245	1.9
	01-10, Wed	2.000	1.511	0.000	1.820	2.487	1.814	1.482	0.9
	01-11, Thu	2.000	2.075	1.998	1.968	2.734	1.646	0.970	0.0
	01-13, Sat	9.000	8.851	8.952	9.010	8.751	5.606	5.466	0.0
	01-15, Mon	2.000	3.246	5.929	5.112	6.032	5.919	5.759	5.7
	01-17, Wed	2.000	2.657	0.000	1.000	5.309	2.153	2.157	2.1
	01-18, Thu	2.000	2.039	2.104	0.000	2.579	1.460	1.911	2.0
	01-20, Sat	9.000	7.853	8.943	9.000	1.699	4.444	8.238	6.4
	01-22, Mon	2.000	2.118	2.208	2.788	2.912	2.026	2.066	1.6
	01-24, Wed	2.000	0.000	0.000	2.081	3.276	1.971	0.000	2.1
	01-25, Thu	2.000	1.994	2.123	1.667	2.974	1.899	2.096	1.9
	01-27, Sat	9.000	9.202	9.167	6.891	0.000	9.003	5.503	7.6
	01-29, Mon	2.000	2.295	2.271	1.000	3.269	1.779	2.292	1.9
	01-31, Wed	2.000	1.043	0.000	1.908	4.313	0.000	0.000	2.2
	02-01, Thu	2.000	2.556	2.084	1.000	3.335	3.003	2.134	2.3
	02-03, Sat	9.000	7.939	8.950	8.512	1.934	8.466	6.170	7.0
	student_total	60.000	57.652	56.892	55.784	53.972	52.237	48.489	46.4
	student_percent	1.000	0.961	0.948	0.930	0.900	0.871	0.808	0.7
	student_percent_nice	100.00%	96.09%	94.82%	92.97%	89.95%	87.06%	80.81%	77.39

In [ ]: