```
In [262]:
```

```
#Importation et affichage
pwd
```

```
Out[262]:
```

'/Users/Yaha/Desktop/CAPSTONE 2/CONCAT'

```
In [263]:
```

```
import pandas as pd
df_employee_night_logs = pd.read_csv('/Users/Yaha/Desktop/CAPSTONE 2/Employee_Night_Logs.
csv')
df_employee_evening_schedule = pd.read_csv('/Users/Yaha/Desktop/CAPSTONE 2/CONCAT/Output\
Employee_Evening_Schedule.csv')
```

```
In [264]:
```

```
df_employee_night_logs
```

```
Out[264]:
```

	name	clock in	clock out	tour_date
0	Tom Burden	15:55	19:15	23/05/2022
1	Tim Chang	16:45	19:15	23/05/2022
2	Ben Jonsen	17:25	19:00	23/05/2022
3	Laura Tobin	17:30	23:15	23/05/2022
4	Emily Ngo	17:31	23:30	23/05/2022
...	...	...	...	...
315	Nolan Pendergast	17:30	23:40	19/06/2022
316	David Chiswell	17:30	00:00	19/06/2022
317	Sally Kittman	17:30	23:45	19/06/2022
318	Andrew Brewer	17:30	00:00	19/06/2022
319	Nicola Georgi	23:00	00:00	19/06/2022

320 rows × 4 columns

```
In [ ]:
```

```
#Séléction des colonnes et mise en place de clé de jointure
```

```
In [265]:
```

```
df_employee_night_logs["tour_date1"]=df_employee_night_logs["tour_date"].str[6:10]+"-"+d
f_employee_night_logs["tour_date"].str[3:5]+"-"+df_employee_night_logs["tour_date"].str[
0:2]
```

```
In [266]:
```

```
df_employee_night_logs['cle']=df_employee_night_logs["tour_date1"]+"-"+df_employee_night
_logs["name"]
```

```
In [267]:
```

```
df_employee_night_logs=df_employee_night_logs.drop(['tour_date','name','tour_date1'], ax
is=1)
```

```
In [268]:
```

```
df_employee_night_logs
```

	clock in	clock out	cle
0	15:55	19:15	2022-05-23-Tom Burden
1	16:45	19:15	2022-05-23-Tim Chang
2	17:25	19:00	2022-05-23-Ben Jonsen
3	17:30	23:15	2022-05-23-Laura Tobin
4	17:31	23:30	2022-05-23-Emily Ngo
...	...	...	...
315	17:30	23:40	2022-06-19-Nolan Pendergast
316	17:30	00:00	2022-06-19-David Chiswell
317	17:30	23:45	2022-06-19-Sally Kittman
318	17:30	00:00	2022-06-19-Andrew Brewer
319	23:00	00:00	2022-06-19-Nicola Georgi

320 rows × 3 columns

In [269]:

```
df_employee_evening_schedule
```

	name	duty	start_time	end_time	tour_date
0	Tom Burden	Office Shift - M	16:00:00	19:30:00	23 05 2022
1	Tim Chang	Office Shift	17:00:00	19:30:00	23 05 2022
2	Ben Jonsen	Office Shift	17:30:00	19:30:00	23 05 2022
3	Laura Tobin	Guide 1	17:30:00	23:30:00	23 05 2022
4	Emily Ngo	Guide 2	17:30:00	23:30:00	23 05 2022
...	...	...	...	...	...
317	Nolan Pendergast	Guide 10	17:30:00	23:30:00	19 06 2022
318	David Chiswell	Guide 11	17:30:00	23:30:00	19 06 2022
319	Sally Kittman	Guide 12	17:30:00	23:30:00	19 06 2022
320	Andrew Brewer	Guide 13	17:30:00	23:30:00	19 06 2022
321	Nicola Georgi	Office Shift - M	22:00:00	23:30:00	19 06 2022

322 rows × 5 columns

In [270]:

```
df_employee_evening_schedule["tour_date1"]=df_employee_evening_schedule["tour_date"].str[
6:10]+"-"+df_employee_evening_schedule["tour_date"].str[3:5]+"-"+df_employee_evening_sch
edule["tour_date"].str[0:2]
```

In [271]:

```
df_employee_evening_schedule['cle']=df_employee_evening_schedule["tour_date1"]+"-"+df_emp
loyee_evening_schedule["name"]
```

In [272]:

```
df_employee_evening_schedule
```

	name	duty	start_time	end_time	tour_date	tour_date1	cle
0	Tom Burden	Office Shift - M	16:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tom Burden
1	Tim Chang	Office Shift	17:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tim Chang
2	Ben Jonsen	Office Shift	17:30:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Ben Jonsen
3	Laura Tobin	Guide 1	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Laura Tobin
4	Emily Ngo	Guide 2	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Emily Ngo
...	...	...	...	...	...	...	...
317	Nolan Pendergast	Guide 10	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nolan Pendergast
318	David Chiswell	Guide 11	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-David Chiswell
319	Sally Kittman	Guide 12	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Sally Kittman
320	Andrew Brewer	Guide 13	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Andrew Brewer
321	Nicola Georgi	Office Shift - M	22:00:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nicola Georgi

322 rows × 7 columns

In [ ]:

```
#Jointure
```

In [273]:

```
Employee_new = pd.merge(df_employee_evening_schedule, df_employee_night_logs,how="left",
on=['cle'] )
```

In [274]:

```
Employee_new
```

Out[274]:

	name	duty	start_time	end_time	tour_date	tour_date1	cle	clock in	clock out
0	Tom Burden	Office Shift - M	16:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tom Burden	15:55	19:15
1	Tim Chang	Office Shift	17:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tim Chang	16:45	19:15
2	Ben Jonsen	Office Shift	17:30:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Ben Jonsen	17:25	19:00
3	Laura Tobin	Guide 1	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Laura Tobin	17:30	23:15
4	Emily Ngo	Guide 2	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Emily Ngo	17:31	23:30
...	...	...	...	...	...	...	...	...	...
319	Nolan Pendergast	Guide 10	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nolan Pendergast	17:30	23:40
320	David Chiswell	Guide 11	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-David Chiswell	17:30	00:00
321	Sally Kittman	Guide 12	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Sally Kittman	17:30	23:45
322	Andrew Brewer	Guide 13	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Andrew Brewer	17:30	00:00
323	Nicola Georgi	Office Shift - M	22:00:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nicola Georgi	23:00	00:00

324 rows × 9 columns

In [ ]:

```
#Calcule du temps de retard de chaque employé
```

In [275]:

```
Employee_new['start_time'].str[3:5]
```

Out[275]:

```
0      00
1      00
2      30
3      30
4      30
      ..
319    30
320    30
321    30
322    30
323    00
Name: start_time, Length: 324, dtype: object
```

In [276]:

```
Employee_new['retard']=(Employee_new['start_time'].str[0:2].astype(float)*60+Employee_ne
w['start_time'].str[3:5].astype(float)-(Employee_new['clock in'].str[0:2].astype(float)*
60+Employee_new['clock in'].str[3:5].astype(float)))
```

In [277]:

```
Employee_new
```

Out[277]:

	name	duty	start_time	end_time	tour_date	tour_date1	cle	clock in	clock out	retard
0	Tom Burden	Office Shift - M	16:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tom Burden	15:55	19:15	5.0
1	Tim Chang	Office Shift	17:00:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Tim Chang	16:45	19:15	15.0
2	Ben Jonsen	Office Shift	17:30:00	19:30:00	23 05 2022	2022-05-23	2022-05-23-Ben Jonsen	17:25	19:00	5.0
3	Laura Tobin	Guide 1	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Laura Tobin	17:30	23:15	0.0
4	Emily Ngo	Guide 2	17:30:00	23:30:00	23 05 2022	2022-05-23	2022-05-23-Emily Ngo	17:31	23:30	-1.0
...	...	...	...	...	...	...	...	...	...	...
319	Nolan Pendergast	Guide 10	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nolan Pendergast	17:30	23:40	0.0
320	David Chiswell	Guide 11	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-David Chiswell	17:30	00:00	0.0
321	Sally Kittman	Guide 12	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Sally Kittman	17:30	23:45	0.0
322	Andrew Brewer	Guide 13	17:30:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Andrew Brewer	17:30	00:00	0.0
323	Nicola Georgi	Office Shift - M	22:00:00	23:30:00	19 06 2022	2022-06-19	2022-06-19-Nicola Georgi	23:00	00:00	-60.0

324 rows × 10 columns

In [261]:

```
#Output
```

```
#Output
Employee_new.to_csv('Output\\Employee_new.csv',index=False)
```

In [ ]:

```
#Visualisation du code
https://cutt.ly/FVmAE1l
```