Student Alcohol Consumption

✓ Introduction:

This time you will download a dataset from the UCI.

Step 1. Import the necessary libraries

```
import pandas as pd
```

Step 2. Import the dataset from this address.

 ✓ Step 3. Assign it to a variable called df.

```
df = pd.read_csv('student_alcohol.csv')
```

Step 4. For the purpose of this exercise slice the dataframe from 'school' until the 'guardian' column

```
step4 = df.loc[:, 'school':'guardian']
print(step4)
```

Fjob	Mjob	Fedu	Medu	Pstatus	famsize	address	age	sex	school		_
teacher	at_home	4	4	Α	GT3	U	18	F	GP	0	
other	at_home	1	1	T	GT3	U	17	F	GP	1	
other	at_home	1	1	T	LE3	U	15	F	GP	2	
services	health	2	4	T	GT3	U	15	F	GP	3	
other	other	3	3	T	GT3	U	16	F	GP	4	
services	services	2	2	Α	LE3	U	20	М	MS	390	
services	services	1	3	T	LE3	U	17	М	MS	391	
other	other	1	1	T	GT3	R	21	М	MS	392	
other	services	2	3	T	LE3	R	18	М	MS	393	
at_home	other	1	1	T	LE3	U	19	М	MS	394	
	teacher other other services other services services other other other	at_home at_home other at_home health other other services services services other other services other other other other other other other	4 at_nome teacher 1 at_home other 2 health services 3 other other 2 services services 1 services services 1 other other 2 services other	4 4 at_home teacher 1 1 at_home other 1 1 at_home other 4 2 health services 3 3 other other 2 2 services services 3 1 services services 1 1 other other 3 2 services other	A 4 4 at_home teacher T 1 1 at_home other T 1 1 at_home other T 4 2 health services T 3 3 other other A 2 2 services services T 3 1 services services T 1 1 other other T 3 2 services other	GT3 A 4 4 at_home teacher GT3 T 1 1 at_home other LE3 T 1 1 at_home other GT3 T 4 2 health services GT3 T 3 3 other other LE3 A 2 2 services services LE3 T 3 1 services services GT3 T 1 1 other other LE3 T 3 2 services other	U GT3 A 4 4 at_home teacher U GT3 T 1 1 at_home other U LE3 T 1 1 at_home other U GT3 T 4 2 health services U GT3 T 3 3 other other U LE3 A 2 2 services services U LE3 T 3 1 services services R GT3 T 1 1 other other R LE3 T 3 2 services other	18 U GT3 A 4 4 at_home teacher 17 U GT3 T 1 1 at_home other 15 U LE3 T 1 1 at_home other 15 U GT3 T 4 2 health services 16 U GT3 T 3 3 other other 20 U LE3 A 2 2 services services 17 U LE3 T 3 1 services services 21 R GT3 T 1 1 other other 18 R LE3 T 3 2 services other	F 18 U GT3 A 4 4 at_home teacher F 17 U GT3 T 1 1 at_home other F 15 U LE3 T 1 1 at_home other F 15 U GT3 T 4 2 health services F 16 U GT3 T 3 3 other other	GP F 18 U GT3 A 4 4 at_home teacher GP F 17 U GT3 T 1 1 at_home other GP F 15 U LE3 T 1 1 at_home other GP F 15 U GT3 T 4 2 health services GP F 16 U GT3 T 3 3 other other	0

```
reason guardian
             mother
    course
1
     course
             father
     other
             mother
      home
             mother
      home
             father
390 course
              other
391 course
             mother
392 course
              other
393 course
             mother
394 course
[395 rows x 12 columns]
```

 ✓ Step 5. Create a lambda function that will capitalize strings.

```
step5 = lambda x: x.str.capitalize()
print(step5)

function <lambda> at 0x79084809ae80>
```

Step 6. Capitalize both Mjob and Fjob

```
0 At_home Teacher
1 At_home Other
2 At_home Other
```

```
3
       Health Services
4
        0ther
                  0ther
390
     Services
               Services
391
     Services
               Services
392
        Other
                  Other
393
     Services
                  0ther
                At_home
394
        0ther
[395 rows x 2 columns]
```

Step 7. Print the last elements of the data set.

```
step7 = df.tail()
print(step7)
                     age address famsize Pstatus
₹
         school sex
                                                    Medu Fedu
                                                                     Mjob
                                                                               Fjob \
     390
                                                                           services
             MS
                      20
                                U
                                      LE3
                                                                services
     391
             MS
                  М
                      17
                                U
                                      LE3
                                                 Т
                                                       3
                                                             1
                                                                 services
                                                                           services
     392
             MS
                  Μ
                       21
                                R
                                      GT3
                                                       1
                                                                    other
                                                                              other
     393
                  Μ
                      18
                                      LE3
                                                                              other
             MS
                                R
                                                 Т
                                                       3
                                                             2
                                                                 services
     394
             MS
                  М
                      19
                                U
                                      LE3
                                                                    other
                                                                            at_home
          ... famrel freetime
                                goout
                                       Dalc
                                              Walc health absences
     390
                   5
                             5
                                    4
                                          4
                                                 5
                                                        4
                                                                 11
                                                                     9
                                                                          9
                                                                              9
     391
                   2
                             4
                                    5
                                           3
                                                 4
                                                        2
                                                                 3
                                                                     14
                                                                         16
                                                                             16
     392
                    5
                                                 3
                                                                 3 10
                             5
                                    3
                                                                          8
         . . .
                                                                 0
     393
                    4
                             4
                                    1
                                           3
                                                 4
                                                        5
                                                                    11 12
                                                                             10
                                                        5
     394
                    3
                             2
                                    3
                                           3
                                                 3
                                                                      8
                                                                          9
     [5 rows x 33 columns]
```

Step 8. Did you notice the original dataframe is still lowercase? Why is that? Fix it and capitalize Mjob and Fjob.

```
df[['Mjob', 'Fjob']] = df[['Mjob', 'Fjob']].apply(step5)
step8 = df[['Mjob', 'Fjob']]
print(step8)
₹
              Mjob
                         Fjob
           At_home
                     Teacher
     1
           At_home
                       Other
     2
           At_home
                       0ther
            Health
                    Services
     4
             0ther
                       Other
     390 Services
                    Services
     391
          Services
                    Services
     392
             0ther
                       Other
     393 Services
                       0ther
                     At_home
             Other
     [395 rows x 2 columns]
```

Step 9. Create a function called majority that returns a boolean value to a new column called legal_drinker (Consider majority as older than 17 years old)

```
def majority(age):
    return age > 17
df['legal_drinker'] = df['age'].apply(majority)
step9 = df[['age', 'legal_drinker']]
print(step9)
₹
              legal drinker
          age
     0
           18
                         True
     1
           17
                        False
                        False
           15
     3
           15
                        False
     4
           16
                        False
     390
           20
                         True
     391
           17
                        False
                         True
```

393 18 True 394 19 True [395 rows x 2 columns]

→ Step 10. Multiply every number of the dataset by 10.

I know this makes no sense, don't forget it is just an exercise

step10 = df.select_dtypes(include=['int64', 'float64']) * 10
print(step10)

_ _		age	Medu	Fedu	+navel+im	e studyti	imo	failur		famnol	freetime	\
<u> </u>	0	180	40	40	2		20	Iallui	0	40	30	١,
								9 30 9				
	1	170	10	10	1		20			50	30	
	2	150	10	10	1		20			40	30	
	3	150	40	20	1	0	30			30	20	
	4	160	30	30	1	0	20	0		40	30	
	• •	• • •	• • •	• • •								
	390	200	20	20	1	0	20		20	50	50	
	391	170	30	10	2	0	10		0	20	40	
	392	210	10	10	1	0	10		30	50	50	
	393	180	30	20	3	0	10		0	40	40	
	394	190	10	10	1	0	10		0		20	
		goou	t Dal	c Walc	health	absences	G1	G2	G3			
	0	40	0 1	0 10	30	60	50	60	60			
	1	30	0 1	0 10	30	40	50	50	60			
	2	20	0 2	0 30	30	100	70	80	100			
	3	20			50	20	150	140	150			
	4	20				40	60		100			
	390	40	0 4	0 50	40	110	90	90	90			
	391	50	0 30	0 40	20	30	140	160	160			
	392	30	0 3	0 30	30	30	100	80	70			
	393	10				0	110	120	100			
	394	30				50	80		90			