



Universidad Tecnológica de la Mixteca

Ingeniería en Computación

Proyecto 1.2 Comprehensions.

Programación Funcional

Prof: Dr. Millán Hernández Christian Eduardo.

Martínez Leyva José Abel

Medina Navarrete Rheveri Antonio

Pérez Martínez Esmeralda

Grupo: 702-A

Fecha de entrega: 04/11/22

Proyecto 1.2

```
import csv
from statistics import mean
```

1. Crear una lista de diccionarios con todos los registros y todas columnas del csv

```
with open('./exams.csv') as csvfile:
    list = []
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    for student in students:
        iterador = zip(columnas, student)
        list.append({clave:valor for clave, valor in iterador})
print(list)
```

```
[{'gender': 'male', 'race/ethnicity': 'group A', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'completed', 'math score': '67', 'reading score': '67',
'writing score': '63'}, {'gender': 'female', 'race/ethnicity': 'group
D', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '40',
'reading score': '59', 'writing score': '55'}, {'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'some
college', 'lunch': 'free/reduced', 'test preparation course': 'none',
'math score': '59', 'reading score': '60', 'writing score': '50'},
{'gender': 'male', 'race/ethnicity': 'group B', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '77', 'reading score': '78', 'writing
score': '68'}, {'gender': 'male', 'race/ethnicity': 'group E',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'78', 'reading score': '73', 'writing score': '68'}, {'gender':
'female', 'race/ethnicity': 'group D', 'parental level of education':
'high school', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '63', 'reading score': '77', 'writing score': '76'},
{'gender': 'female', 'race/ethnicity': 'group A', 'parental level of
education': "bachelor's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '62', 'reading score':
'59', 'writing score': '63'}, {'gender': 'male', 'race/ethnicity':
'group E', 'parental level of education': 'some college', 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'93', 'reading score': '88', 'writing score': '84'}, {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
'high school', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '63', 'reading score': '56', 'writing score': '65'},
{'gender': 'male', 'race/ethnicity': 'group C', 'parental level of
education': 'some college', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '47', 'reading score': '42', 'writing
score': '45'}, {'gender': 'male', 'race/ethnicity': 'group E',
```

'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '99', 'reading score': '83', 'writing score': '85'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '80', 'reading score': '87', 'writing score': '90'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '77', 'reading score': '87', 'writing score': '85'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '74', 'reading score': '74', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '81', 'reading score': '87', 'writing score': '85'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '69', 'reading score': '61', 'writing score': '57'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '58', 'reading score': '47', 'writing score': '42'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '54', 'reading score': '62', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '23', 'reading score': '44', 'writing score': '44'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '39', 'reading score': '32', 'writing score': '31'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '83', 'reading score': '76', 'writing score': '88'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '58', 'reading score': '52', 'writing score': '55'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '71', 'reading score': '69', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '44', 'reading score': '55', 'writing score': '54'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '46', 'reading score': '38', 'writing score': '32'},

```
{'gender': 'male', 'race/ethnicity': 'group C', 'parental level of
education': 'high school', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '51', 'reading score': '45', 'writing
score': '42'}, {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '53',
'reading score': '60', 'writing score': '56'}, {'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'high
school', 'lunch': 'standard', 'test preparation course': 'none', 'math
score': '71', 'reading score': '68', 'writing score': '60'},
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'completed', 'math score': '74', 'reading score': '89',
'writing score': '89'}, {'gender': 'female', 'race/ethnicity': 'group
A', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '33',
'reading score': '54', 'writing score': '51'}, {'gender': 'male',
'race/ethnicity': 'group B', 'parental level of education': 'some
college', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '87', 'reading score': '79', 'writing score': '77'},
{'gender': 'male', 'race/ethnicity': 'group A', 'parental level of
education': "bachelor's degree", 'lunch': 'free/reduced', 'test
preparation course': 'none', 'math score': '78', 'reading score':
'74', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity':
'group A', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'completed', 'math score':
'40', 'reading score': '41', 'writing score': '39'}, {'gender':
'female', 'race/ethnicity': 'group B', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '65', 'reading score': '65', 'writing
score': '71'}, {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': "bachelor's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'79', 'reading score': '88', 'writing score': '89'}, {'gender':
'female', 'race/ethnicity': 'group A', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'math score': '68', 'reading score': '74', 'writing score':
'74'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental
level of education': 'some college', 'lunch': 'standard', 'test
preparation course': 'completed', 'math score': '57', 'reading score':
'77', 'writing score': '75'}, {'gender': 'male', 'race/ethnicity':
'group B', 'parental level of education': 'high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '67',
'reading score': '65', 'writing score': '54'}, {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education': 'some
college', 'lunch': 'free/reduced', 'test preparation course':
'completed', 'math score': '58', 'reading score': '68', 'writing
score': '73'}, {'gender': 'male', 'race/ethnicity': 'group E',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'none', 'math score': '98',
```

'reading score': '81', 'writing score': '77'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "master's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '75', 'writing score': '72'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '67', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '87', 'reading score': '79', 'writing score': '82'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '58', 'reading score': '70', 'writing score': '70'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '100', 'reading score': '88', 'writing score': '87'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '60', 'reading score': '46', 'writing score': '51'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '64', 'reading score': '63', 'writing score': '57'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '65', 'reading score': '76', 'writing score': '78'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '72', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '60', 'reading score': '63', 'writing score': '57'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '65', 'reading score': '68', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '52', 'reading score': '58', 'writing score': '60'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '81', 'writing score': '85'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '36', 'reading score': '53', 'writing score': '49'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none',

'math score': '57', 'reading score': '57', 'writing score': '47'},
{ 'gender': 'female', 'race/ethnicity': 'group C', 'parental level of
education': 'some college', 'lunch': 'standard', 'test preparation
course': 'completed', 'math score': '56', 'reading score': '60',
'writing score': '62'}, { 'gender': 'female', 'race/ethnicity': 'group
C', 'parental level of education': "bachelor's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'67', 'reading score': '80', 'writing score': '84'}, { 'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '88', 'reading score': '87', 'writing
score': '83'}, { 'gender': 'female', 'race/ethnicity': 'group D',
'parental level of education': 'some college', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '42',
'reading score': '61', 'writing score': '51'}, { 'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'none', 'math
score': '68', 'reading score': '51', 'writing score': '48'},
{ 'gender': 'male', 'race/ethnicity': 'group D', 'parental level of
education': 'some college', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '76', 'reading score': '66', 'writing
score': '68'}, { 'gender': 'female', 'race/ethnicity': 'group E',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '58',
'reading score': '63', 'writing score': '59'}, { 'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'completed',
'math score': '69', 'reading score': '67', 'writing score': '62'},
{ 'gender': 'male', 'race/ethnicity': 'group A', 'parental level of
education': "bachelor's degree", 'lunch': 'standard', 'test
preparation course': 'completed', 'math score': '77', 'reading score':
'82', 'writing score': '78'}, { 'gender': 'male', 'race/ethnicity':
'group D', 'parental level of education': "master's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'83', 'reading score': '93', 'writing score': '97'}, { 'gender':
'female', 'race/ethnicity': 'group C', 'parental level of education':
'some high school', 'lunch': 'free/reduced', 'test preparation
course': 'completed', 'math score': '49', 'reading score': '74',
'writing score': '70'}, { 'gender': 'male', 'race/ethnicity': 'group
C', 'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '71', 'reading
score': '60', 'writing score': '56'}, { 'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education': 'some high
school', 'lunch': 'free/reduced', 'test preparation course': 'none',
'math score': '47', 'reading score': '46', 'writing score': '49'},
{ 'gender': 'male', 'race/ethnicity': 'group B', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '79', 'reading score': '64', 'writing
score': '60'}, { 'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'high school', 'lunch': 'standard',

'test preparation course': 'none', 'math score': '60', 'reading score': '64', 'writing score': '57'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '56', 'reading score': '68', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '57', 'reading score': '52', 'writing score': '47'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '49', 'reading score': '70', 'writing score': '63'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '79', 'reading score': '76', 'writing score': '81'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'master's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '71', 'reading score': '76', 'writing score': '67'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '71', 'reading score': '77', 'writing score': '70'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '47', 'reading score': '63', 'writing score': '59'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '72', 'reading score': '91', 'writing score': '81'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '78', 'reading score': '73', 'writing score': '76'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '54', 'reading score': '43', 'writing score': '45'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '46', 'reading score': '59', 'writing score': '62'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '31', 'reading score': '38', 'writing score': '42'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '51', 'reading score': '59', 'writing score': '59'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '78', 'reading score': '76', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of

education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '32', 'reading score': '41', 'writing score': '39'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '53', 'reading score': '71', 'writing score': '69'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '63', 'reading score': '76', 'writing score': '69'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '97', 'reading score': '93', 'writing score': '88'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '56', 'reading score': '52', 'writing score': '61'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '72', 'reading score': '76', 'writing score': '72'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '57', 'reading score': '47', 'writing score': '42'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '71', 'writing score': '70'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '81', 'reading score': '81', 'writing score': '87'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '94', 'reading score': '87', 'writing score': '93'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'master's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '81', 'reading score': '73', 'writing score': '72'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '58', 'reading score': '63', 'writing score': '67'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '95', 'reading score': '100', 'writing score': '100'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '45', 'reading score': '52', 'writing score': '49'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '50', 'writing score': '49'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of

education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '60', 'reading score': '54', 'writing score': '53'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '54', 'reading score': '61', 'writing score': '62'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '75', 'reading score': '78', 'writing score': '79'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '79', 'reading score': '78', 'writing score': '77'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '66', 'reading score': '67', 'writing score': '67'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '47', 'reading score': '58', 'writing score': '58'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '70', 'reading score': '78', 'writing score': '82'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '82', 'reading score': '74', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '56', 'reading score': '38', 'writing score': '44'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '92', 'reading score': '78', 'writing score': '71'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '30', 'reading score': '33', 'writing score': '33'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '79', 'reading score': '88', 'writing score': '86'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '41', 'reading score': '52', 'writing score': '47'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '82', 'writing score': '71'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'bachelor's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '43', 'reading score': '34', 'writing score': '33'}, {'gender': 'male', 'race/ethnicity':

'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '76', 'writing score': '74'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '76', 'reading score': '79', 'writing score': '76'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '49', 'reading score': '61', 'writing score': '63'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '59', 'reading score': '57', 'writing score': '55'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '59', 'reading score': '70', 'writing score': '58'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '76', 'reading score': '90', 'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '55', 'reading score': '71', 'writing score': '71'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '78', 'reading score': '87', 'writing score': '89'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '51', 'reading score': '53', 'writing score': '62'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '41', 'reading score': '43', 'writing score': '45'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '78', 'writing score': '86'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '54', 'writing score': '58'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '71', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '45', 'reading score': '52', 'writing score': '45'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '100', 'reading score': '84',

'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '83', 'reading score': '95', 'writing score': '100'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '77', 'reading score': '75', 'writing score': '82'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '66', 'reading score': '70', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '65', 'reading score': '63', 'writing score': '57'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '55', 'writing score': '56'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '55', 'reading score': '54', 'writing score': '54'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '73', 'reading score': '78', 'writing score': '69'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '73', 'reading score': '81', 'writing score': '76'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '48', 'reading score': '66', 'writing score': '68'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '52', 'reading score': '44', 'writing score': '49'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '60', 'reading score': '72', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '68', 'reading score': '63', 'writing score': '57'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '65', 'reading score': '77', 'writing score': '83'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '86', 'reading score': '83', 'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test

preparation course': 'none', 'math score': '55', 'reading score': '62', 'writing score': '60'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '80', 'reading score': '71', 'writing score': '68'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '51', 'reading score': '57', 'writing score': '57'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '63', 'reading score': '61', 'writing score': '66'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '60', 'reading score': '55', 'writing score': '46'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '100', 'reading score': '100', 'writing score': '100'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '46', 'reading score': '44', 'writing score': '44'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '67', 'reading score': '78', 'writing score': '80'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '67', 'writing score': '59'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '79', 'writing score': '76'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '66', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '63', 'writing score': '58'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '43', 'reading score': '44', 'writing score': '47'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '64', 'reading score': '64', 'writing score': '59'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '92', 'reading score': '87', 'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education':

"associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '82', 'reading score': '95', 'writing score': '93'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '84', 'reading score': '78', 'writing score': '79'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '84', 'reading score': '98', 'writing score': '97'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '65', 'reading score': '63', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '83', 'reading score': '92', 'writing score': '91'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '70', 'reading score': '75', 'writing score': '75'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '66', 'reading score': '72', 'writing score': '70'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '71', 'reading score': '87', 'writing score': '92'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '66', 'reading score': '64', 'writing score': '58'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '57', 'reading score': '64', 'writing score': '68'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '86', 'reading score': '90', 'writing score': '93'}, {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '80', 'reading score': '85', 'writing score': '83'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '60', 'writing score': '59'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '71', 'reading score': '71', 'writing score': '76'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '57', 'reading score': '66', 'writing

score': '71'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '69', 'reading score': '64', 'writing score': '62'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '83', 'reading score': '74', 'writing score': '72'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '50', 'reading score': '56', 'writing score': '60'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '55', 'reading score': '56', 'writing score': '56'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '55', 'reading score': '53', 'writing score': '51'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '83', 'reading score': '93', 'writing score': '95'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '89', 'reading score': '87', 'writing score': '86'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '51', 'reading score': '62', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '48', 'reading score': '52', 'writing score': '49'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '84', 'reading score': '95', 'writing score': '89'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '69', 'reading score': '83', 'writing score': '76'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '75', 'reading score': '85', 'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '91', 'reading score': '100', 'writing score': '99'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '76', 'reading score': '77', 'writing score': '67'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test

preparation course': 'none', 'math score': '63', 'reading score': '61', 'writing score': '59'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '73', 'reading score': '65', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '52', 'reading score': '63', 'writing score': '53'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '58', 'reading score': '57', 'writing score': '53'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '33', 'reading score': '51', 'writing score': '51'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '68', 'reading score': '62', 'writing score': '61'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '77', 'reading score': '91', 'writing score': '89'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '64', 'reading score': '64', 'writing score': '66'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '39', 'reading score': '49', 'writing score': '48'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '50', 'reading score': '46', 'writing score': '48'}, {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "master's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '53', 'reading score': '57', 'writing score': '51'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '54', 'reading score': '62', 'writing score': '70'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '63', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '50', 'reading score': '63', 'writing score': '65'}, {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '55', 'reading score': '54', 'writing score': '47'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level

of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '64', 'writing score': '70'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '49', 'reading score': '64', 'writing score': '67'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '66', 'reading score': '83', 'writing score': '82'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '77', 'reading score': '74', 'writing score': '75'}, {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '74', 'reading score': '78', 'writing score': '84'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '85', 'reading score': '78', 'writing score': '81'}, {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '86', 'writing score': '84'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '64', 'reading score': '62', 'writing score': '66'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '61', 'reading score': '69', 'writing score': '68'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '97', 'reading score': '88', 'writing score': '85'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '66', 'reading score': '75', 'writing score': '70'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '66', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '64', 'reading score': '80', 'writing score': '77'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '55', 'reading score': '57', 'writing score': '60'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '53', 'reading score': '72', 'writing score': '66'}, {'gender':

'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '71', 'reading score': '81', 'writing score': '77'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '66', 'reading score': '59', 'writing score': '68'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '61', 'writing score': '62'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '89', 'reading score': '90', 'writing score': '83'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '65', 'reading score': '69', 'writing score': '74'}, {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '43', 'reading score': '48', 'writing score': '44'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '79', 'reading score': '77', 'writing score': '83'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '99', 'reading score': '94', 'writing score': '97'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '82', 'reading score': '69', 'writing score': '72'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '35', 'reading score': '36', 'writing score': '39'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '61', 'reading score': '71', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '76', 'reading score': '80', 'writing score': '81'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '94', 'reading score': '83', 'writing score': '82'}, {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '75', 'reading score': '90', 'writing score': '78'}, {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '81', 'reading score': '75', 'writing score': '70'},

```
{'gender': 'male', 'race/ethnicity': 'group C', 'parental level of
education': 'some college', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '35', 'reading score': '44', 'writing
score': '33'}, {'gender': 'male', 'race/ethnicity': 'group C',
'parental level of education': 'some college', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '76', 'reading
score': '74', 'writing score': '72'}, {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'math score': '58', 'reading score': '79', 'writing score':
'82'}, {'gender': 'male', 'race/ethnicity': 'group C', 'parental level
of education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'completed', 'math score': '100', 'reading
score': '91', 'writing score': '90'}, {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'math score': '53', 'reading score': '68', 'writing score':
'64'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental
level of education': 'high school', 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '82', 'reading score':
'95', 'writing score': '96'}, {'gender': 'male', 'race/ethnicity':
'group B', 'parental level of education': "associate's degree",
'lunch': 'standard', 'test preparation course': 'none', 'math score':
'76', 'reading score': '62', 'writing score': '64'}, {'gender':
'male', 'race/ethnicity': 'group C', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '83', 'reading score': '75', 'writing
score': '75'}, {'gender': 'female', 'race/ethnicity': 'group D',
'parental level of education': 'some college', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '72', 'reading
score': '84', 'writing score': '82'}, {'gender': 'male',
'race/ethnicity': 'group D', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '76', 'reading score': '76', 'writing
score': '83'}, {'gender': 'male', 'race/ethnicity': 'group D',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '66',
'reading score': '64', 'writing score': '58'}, {'gender': 'male',
'race/ethnicity': 'group C', 'parental level of education': 'some
college', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '63', 'reading score': '65', 'writing score': '63'},
{'gender': 'male', 'race/ethnicity': 'group B', 'parental level of
education': 'some high school', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '36', 'reading score': '34', 'writing
score': '28'}, {'gender': 'male', 'race/ethnicity': 'group C',
'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '68', 'reading
score': '74', 'writing score': '71'}, {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education': 'some high
school', 'lunch': 'free/reduced', 'test preparation course':
```

```
'completed', 'math score': '40', 'reading score': '52', 'writing
score': '42'}, {'gender': 'male', 'race/ethnicity': 'group D',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '68',
'reading score': '71', 'writing score': '61'}, {'gender': 'male',
'race/ethnicity': 'group C', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '56', 'reading score': '54', 'writing
score': '52'}, {'gender': 'female', 'race/ethnicity': 'group D',
'parental level of education': "associate's degree", 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '74',
'reading score': '83', 'writing score': '80'}]
```

2. Crear una lista de listas con todos los registros del csv donde el gender sea male

```
with open('./exams.csv') as csvfile:
```

```
    list = []
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    for student in students:
        iterador = zip(columnas, student)
        list.append([student for student in student if
student[0]=='male'])
    list = [lista for lista in list if lista != []]
    print(list)
```

```
[['male', 'group A', 'high school', 'standard', 'completed', '67',
'67', '63'], ['male', 'group E', 'some college', 'free/reduced',
'none', '59', '60', '50'], ['male', 'group B', 'high school',
'standard', 'none', '77', '78', '68'], ['male', 'group E',
"associate's degree", 'standard', 'completed', '78', '73', '68'],
['male', 'group E', 'some college', 'standard', 'completed', '93',
'88', '84'], ['male', 'group D', 'high school', 'standard', 'none',
'63', '56', '65'], ['male', 'group C', 'some college', 'free/reduced',
'none', '47', '42', '45'], ['male', 'group E', 'some college',
'standard', 'completed', '99', '83', '85'], ['male', 'group D',
"associate's degree", 'standard', 'completed', '77', '87', '85'],
['male', 'group C', 'high school', 'standard', 'completed', '74',
'74', '73'], ['male', 'group E', 'some high school', 'standard',
'completed', '81', '87', '85'], ['male', 'group E', "associate's
degree", 'free/reduced', 'none', '69', '61', '57'], ['male', 'group
B', 'high school', 'standard', 'none', '58', '47', '42'], ['male',
'group C', 'some college', 'free/reduced', 'none', '39', '32', '31'],
['male', 'group C', "associate's degree", 'standard', 'none', '58',
'52', '55'], ['male', 'group B', 'some college', 'standard',
'completed', '71', '69', '73'], ['male', 'group E', 'some high
school', 'free/reduced', 'none', '46', '38', '32'], ['male', 'group
C', 'high school', 'free/reduced', 'none', '51', '45', '42'], ['male',
'group E', 'high school', 'standard', 'none', '71', '68', '60'],
['male', 'group B', 'some college', 'standard', 'none', '87', '79',
'77'], ['male', 'group A', "bachelor's degree", 'free/reduced',
```

'none', '78', '74', '73'], ['male', 'group A', 'some high school', 'free/reduced', 'completed', '40', '41', '39'], ['male', 'group B', 'high school', 'free/reduced', 'none', '67', '65', '54'], ['male', 'group E', "associate's degree", 'standard', 'none', '98', '81', '77'], ['male', 'group D', 'high school', 'standard', 'none', '77', '67', '64'], ['male', 'group E', 'high school', 'standard', 'completed', '87', '79', '82'], ['male', 'group E', 'high school', 'standard', 'none', '100', '88', '87'], ['male', 'group C', "bachelor's degree", 'standard', 'none', '60', '46', '51'], ['male', 'group C', "associate's degree", 'free/reduced', 'none', '64', '63', '57'], ['male', 'group C', "associate's degree", 'free/reduced', 'completed', '60', '63', '57'], ['male', 'group D', 'high school', 'standard', 'none', '65', '68', '64'], ['male', 'group D', 'high school', 'free/reduced', 'none', '57', '57', '47'], ['male', 'group D', "associate's degree", 'standard', 'completed', '88', '87', '83'], ['male', 'group E', 'some high school', 'standard', 'none', '68', '51', '48'], ['male', 'group D', 'some college', 'free/reduced', 'none', '76', '66', '68'], ['male', 'group E', 'some high school', 'standard', 'completed', '69', '67', '62'], ['male', 'group A', "bachelor's degree", 'standard', 'completed', '77', '82', '78'], ['male', 'group D', "master's degree", 'standard', 'completed', '83', '93', '97'], ['male', 'group C', 'high school', 'standard', 'none', '71', '60', '56'], ['male', 'group B', 'high school', 'standard', 'none', '79', '64', '60'], ['male', 'group C', "associate's degree", 'standard', 'none', '57', '52', '47'], ['male', 'group B', "master's degree", 'free/reduced', 'none', '71', '76', '67'], ['male', 'group C', "associate's degree", 'standard', 'none', '78', '73', '76'], ['male', 'group D', 'some high school', 'standard', 'none', '54', '43', '45'], ['male', 'group B', 'high school', 'standard', 'completed', '78', '76', '73'], ['male', 'group D', 'some college', 'standard', 'none', '97', '93', '88'], ['male', 'group B', 'high school', 'standard', 'none', '72', '76', '72'], ['male', 'group C', 'some college', 'free/reduced', 'none', '57', '47', '42'], ['male', 'group B', 'some high school', 'standard', 'none', '74', '71', '70'], ['male', 'group D', "bachelor's degree", 'standard', 'completed', '94', '87', '93'], ['male', 'group B', "master's degree", 'free/reduced', 'none', '81', '73', '72'], ['male', 'group B', 'high school', 'free/reduced', 'none', '45', '52', '49'], ['male', 'group A', 'some college', 'standard', 'none', '63', '50', '49'], ['male', 'group B', "associate's degree", 'standard', 'none', '60', '54', '53'], ['male', 'group C', 'some college', 'free/reduced', 'completed', '54', '61', '62'], ['male', 'group C', 'some college', 'standard', 'completed', '75', '78', '79'], ['male', 'group E', 'high school', 'standard', 'none', '79', '78', '77'], ['male', 'group D', 'high school', 'standard', 'none', '66', '67', '67'], ['male', 'group D', 'high school', 'standard', 'none', '82', '74', '73'], ['male', 'group A', "bachelor's degree", 'standard', 'none', '56', '38', '44'], ['male', 'group B', "associate's degree", 'standard', 'none', '92', '78', '71'], ['male', 'group C', 'some college', 'free/reduced', 'none', '30', '33', '33'], ['male', 'group A', "bachelor's degree",

'free/reduced', 'none', '43', '34', '33'], ['male', 'group D', 'high school', 'standard', 'none', '77', '76', '74'], ['male', 'group B', 'associate's degree', 'standard', 'completed', '76', '79', '76'], ['male', 'group C', 'associate's degree', 'standard', 'completed', '59', '57', '55'], ['male', 'group B', 'bachelor's degree', 'free/reduced', 'none', '59', '70', '58'], ['male', 'group C', 'master's degree', 'standard', 'none', '62', '54', '58'], ['male', 'group D', 'associate's degree', 'standard', 'none', '77', '71', '64'], ['male', 'group C', 'some high school', 'standard', 'none', '45', '52', '45'], ['male', 'group E', 'some college', 'standard', 'completed', '100', '84', '87'], ['male', 'group C', 'high school', 'standard', 'completed', '66', '70', '64'], ['male', 'group B', 'some college', 'standard', 'none', '65', '63', '57'], ['male', 'group D', 'associate's degree', 'standard', 'none', '62', '55', '56'], ['male', 'group E', 'some college', 'standard', 'none', '55', '54', '54'], ['male', 'group C', 'some high school', 'free/reduced', 'none', '73', '78', '69'], ['male', 'group A', 'some college', 'standard', 'completed', '73', '81', '76'], ['male', 'group D', 'some college', 'free/reduced', 'none', '52', '44', '49'], ['male', 'group B', 'associate's degree', 'free/reduced', 'none', '68', '63', '57'], ['male', 'group B', 'master's degree', 'standard', 'completed', '80', '71', '68'], ['male', 'group E', 'some college', 'standard', 'none', '60', '55', '46'], ['male', 'group A', 'associate's degree', 'free/reduced', 'none', '46', '44', '44'], ['male', 'group D', 'bachelor's degree', 'standard', 'none', '68', '66', '73'], ['male', 'group B', 'high school', 'free/reduced', 'none', '64', '64', '59'], ['male', 'group E', 'some high school', 'free/reduced', 'none', '84', '78', '79'], ['male', 'group D', 'associate's degree', 'free/reduced', 'none', '65', '63', '65'], ['male', 'group A', 'bachelor's degree', 'standard', 'completed', '66', '72', '70'], ['male', 'group B', 'bachelor's degree', 'standard', 'none', '66', '64', '58'], ['male', 'group A', 'some high school', 'free/reduced', 'completed', '69', '64', '62'], ['male', 'group B', 'some college', 'standard', 'completed', '83', '74', '72'], ['male', 'group B', 'some high school', 'free/reduced', 'none', '55', '53', '51'], ['male', 'group D', 'high school', 'standard', 'completed', '89', '87', '86'], ['male', 'group B', 'high school', 'standard', 'none', '76', '77', '67'], ['male', 'group E', 'some high school', 'free/reduced', 'none', '63', '61', '59'], ['male', 'group D', 'high school', 'standard', 'none', '73', '65', '64'], ['male', 'group B', 'some high school', 'free/reduced', 'completed', '52', '63', '53'], ['male', 'group B', 'some high school', 'standard', 'completed', '58', '57', '53'], ['male', 'group E', 'some high school', 'free/reduced', 'none', '68', '62', '61'], ['male', 'group D', 'bachelor's degree', 'standard', 'none', '50', '46', '48'], ['male', 'group A', 'master's degree', 'free/reduced', 'none', '53', '57', '51'], ['male', 'group D', 'high school', 'standard', 'none', '74', '63', '65'], ['male', 'group E', 'associate's degree', 'standard', 'none', '55', '54', '47'], ['male', 'group C', 'some college', 'standard', 'none', '77', '64', '70'], ['male', 'group B', 'some high school', 'standard', 'completed', '77',

```
'74', '75'], ['male', 'group C', 'some college', 'standard', 'none',
'85', '78', '81'], ['male', 'group D', "associate's degree",
'standard', 'none', '97', '88', '85'], ['male', 'group C', 'some
college', 'standard', 'completed', '66', '75', '70'], ['male', 'group
C', 'some high school', 'standard', 'none', '62', '66', '64'],
['male', 'group B', 'high school', 'free/reduced', 'completed', '66',
'59', '68'], ['male', 'group C', "associate's degree", 'standard',
'none', '68', '61', '62'], ['male', 'group D', 'some college',
'standard', 'none', '89', '90', '83'], ['male', 'group C',
"associate's degree", 'standard', 'completed', '65', '69', '74'],
['male', 'group D', "bachelor's degree", 'standard', 'none', '99',
'94', '97'], ['male', 'group D', 'some high school', 'standard',
'none', '82', '69', '72'], ['male', 'group D', 'some college',
'free/reduced', 'completed', '35', '36', '39'], ['male', 'group C',
"associate's degree", 'free/reduced', 'completed', '94', '83', '82'],
['male', 'group B', 'some college', 'standard', 'none', '81', '75',
'70'], ['male', 'group C', 'some college', 'free/reduced', 'none',
'35', '44', '33'], ['male', 'group C', 'some college', 'standard',
'none', '76', '74', '72'], ['male', 'group C', "associate's degree",
'standard', 'completed', '100', '91', '90'], ['male', 'group B',
"associate's degree", 'standard', 'none', '76', '62', '64'], ['male',
'group C', "bachelor's degree", 'standard', 'completed', '83', '75',
'75'], ['male', 'group D', "associate's degree", 'standard',
'completed', '76', '76', '83'], ['male', 'group D', 'some high
school', 'standard', 'none', '66', '64', '58'], ['male', 'group C',
'some college', 'standard', 'none', '63', '65', '63'], ['male', 'group
B', 'some high school', 'standard', 'none', '36', '34', '28'],
['male', 'group C', 'high school', 'standard', 'none', '68', '74',
'71'], ['male', 'group D', 'some high school', 'standard', 'none',
'68', '71', '61'], ['male', 'group C', "associate's degree",
'standard', 'completed', '56', '54', '52']]
```

3. Crear una lista de diccionarios donde solo aparezcan el gender, test preparation course y math score

```
with open('./exams.csv') as csvfile:
    list = []
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    for student in students:
        iterador = zip(columnas, student)
        list.append({clave: valor for clave, valor in iterador if
clave == 'gender' or clave == 'test preparation course' or clave ==
'math score'})
    print(list)
```

```
[{'gender': 'male', 'test preparation course': 'completed', 'math
score': '67'}, {'gender': 'female', 'test preparation course': 'none',
'math score': '40'}, {'gender': 'male', 'test preparation course':
'none', 'math score': '59'}, {'gender': 'male', 'test preparation
course': 'none', 'math score': '77'}, {'gender': 'male', 'test
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```
'none', 'math score': '89'}, {'gender': 'male', 'test preparation
course': 'completed', 'math score': '65'}, {'gender': 'female', 'test
preparation course': 'none', 'math score': '43'}, {'gender': 'female',
'test preparation course': 'none', 'math score': '79'}, {'gender':
'male', 'test preparation course': 'none', 'math score': '99'},
{'gender': 'male', 'test preparation course': 'none', 'math score':
'82'}, {'gender': 'male', 'test preparation course': 'completed',
'math score': '35'}, {'gender': 'female', 'test preparation course':
'none', 'math score': '61'}, {'gender': 'female', 'test preparation
course': 'none', 'math score': '76'}, {'gender': 'male', 'test
preparation course': 'completed', 'math score': '94'}, {'gender':
'female', 'test preparation course': 'none', 'math score': '75'},
{'gender': 'male', 'test preparation course': 'none', 'math score':
'81'}, {'gender': 'male', 'test preparation course': 'none', 'math
score': '35'}, {'gender': 'male', 'test preparation course': 'none',
'math score': '76'}, {'gender': 'female', 'test preparation course':
'none', 'math score': '58'}, {'gender': 'male', 'test preparation
course': 'completed', 'math score': '100'}, {'gender': 'female', 'test
preparation course': 'none', 'math score': '53'}, {'gender': 'female',
'test preparation course': 'none', 'math score': '82'}, {'gender':
'male', 'test preparation course': 'none', 'math score': '76'},
{'gender': 'male', 'test preparation course': 'completed', 'math
score': '83'}, {'gender': 'female', 'test preparation course': 'none',
'math score': '72'}, {'gender': 'male', 'test preparation course':
'completed', 'math score': '76'}, {'gender': 'male', 'test preparation
course': 'none', 'math score': '66'}, {'gender': 'male', 'test
preparation course': 'none', 'math score': '63'}, {'gender': 'male',
'test preparation course': 'none', 'math score': '36'}, {'gender':
'male', 'test preparation course': 'none', 'math score': '68'},
{'gender': 'female', 'test preparation course': 'completed', 'math
score': '40'}, {'gender': 'male', 'test preparation course': 'none',
'math score': '68'}, {'gender': 'male', 'test preparation course':
'completed', 'math score': '56'}, {'gender': 'female', 'test
preparation course': 'none', 'math score': '74'}]
```

4. Crear una lista de diccionarios de todos los registros donde race/ethnicity sea group D

```
with open('./exams.csv') as csvfile:
    list = []
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    for student in students:
        iterador = zip(columnas, student)
        dir_Student = {clave: valor for clave, valor in iterador if
student[1]=='group D'}
        list.append(dir_Student)
        list = [lista for lista in list if lista != {}]
    print(list)
```

```
[{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'some high school', 'lunch': 'free/reduced', 'test
```

preparation course': 'none', 'math score': '40', 'reading score': '59', 'writing score': '55'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '77', 'writing score': '76'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '56', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '80', 'reading score': '87', 'writing score': '90'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '77', 'reading score': '87', 'writing score': '85'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '67', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '72', 'writing score': '73'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '65', 'reading score': '68', 'writing score': '64'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '57', 'reading score': '57', 'writing score': '47'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '88', 'reading score': '87', 'writing score': '83'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '42', 'reading score': '61', 'writing score': '51'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '76', 'reading score': '66', 'writing score': '68'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '83', 'reading score': '93', 'writing score': '97'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '47', 'reading score': '46', 'writing score': '49'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '72', 'reading score': '91', 'writing score': '81'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation

course': 'none', 'math score': '54', 'reading score': '43', 'writing score': '45'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '31', 'reading score': '38', 'writing score': '42'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '97', 'reading score': '93', 'writing score': '88'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '56', 'reading score': '52', 'writing score': '61'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '81', 'reading score': '81', 'writing score': '87'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '94', 'reading score': '87', 'writing score': '93'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '66', 'reading score': '67', 'writing score': '67'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '70', 'reading score': '78', 'writing score': '82'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '82', 'reading score': '74', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '41', 'reading score': '52', 'writing score': '47'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '76', 'writing score': '74'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '76', 'reading score': '90', 'writing score': '87'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '78', 'reading score': '87', 'writing score': '89'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '78', 'writing score': '86'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '77', 'reading score': '71', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree",

'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '83', 'reading score': '95', 'writing score': '100'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '55', 'writing score': '56'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '52', 'reading score': '44', 'writing score': '49'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '65', 'reading score': '77', 'writing score': '83'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '86', 'reading score': '83', 'writing score': '87'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '66', 'writing score': '73'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '82', 'reading score': '95', 'writing score': '93'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '84', 'reading score': '98', 'writing score': '97'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '65', 'reading score': '63', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '71', 'reading score': '87', 'writing score': '92'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '71', 'reading score': '71', 'writing score': '76'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '50', 'reading score': '56', 'writing score': '60'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '83', 'reading score': '93', 'writing score': '95'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '89', 'reading score': '87', 'writing score': '86'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '51', 'reading score': '62', 'writing score': '64'}, {'gender': 'male',

'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '73', 'reading score': '65', 'writing score': '64'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '39', 'reading score': '49', 'writing score': '48'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '50', 'reading score': '46', 'writing score': '48'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '63', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '50', 'reading score': '63', 'writing score': '65'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '66', 'reading score': '83', 'writing score': '82'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '61', 'reading score': '69', 'writing score': '68'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '97', 'reading score': '88', 'writing score': '85'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '71', 'reading score': '81', 'writing score': '77'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '89', 'reading score': '90', 'writing score': '83'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '79', 'reading score': '77', 'writing score': '83'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '99', 'reading score': '94', 'writing score': '97'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '82', 'reading score': '69', 'writing score': '72'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '35', 'reading score': '36', 'writing score': '39'}, {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '61', 'reading score': '71', 'writing


```

score': '73'}, {'gender': 'female', 'race/ethnicity': 'group D',
'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '76', 'reading
score': '80', 'writing score': '81'}, {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education': 'high
school', 'lunch': 'standard', 'test preparation course': 'none', 'math
score': '82', 'reading score': '95', 'writing score': '96'},
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'some college', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '72', 'reading score': '84', 'writing
score': '82'}, {'gender': 'male', 'race/ethnicity': 'group D',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'76', 'reading score': '76', 'writing score': '83'}, {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
'some high school', 'lunch': 'standard', 'test preparation course':
'none', 'math score': '66', 'reading score': '64', 'writing score':
'58'}, {'gender': 'male', 'race/ethnicity': 'group D', 'parental level
of education': 'some high school', 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '68', 'reading score':
'71', 'writing score': '61'}, {'gender': 'female', 'race/ethnicity':
'group D', 'parental level of education': "associate's degree",
'lunch': 'free/reduced', 'test preparation course': 'none', 'math
score': '74', 'reading score': '83', 'writing score': '80'}]]

```

5. Crear una lista de diccionarios que solo tenga race/ethnicity y test preparation score

with open('./exams.csv') as csvfile:

list = []

students = csv.reader(csvfile, delimiter = ',')

columnas = next(students)

for student **in** students:

iterador = zip(columnas, student)

list.append({clave: valor **for** clave, valor **in** iterador **if**

clave == 'race/ethnicity' **or** clave == 'test preparation course'})

print(list)

```

[{'race/ethnicity': 'group A', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group E', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group E', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group A', 'test preparation course':
'none'}, {'race/ethnicity': 'group E', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group E', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'completed'}, {'race/ethnicity': 'group C', 'test preparation course':

```

[illegible]

[illegible]

[illegible]

[illegible]

```

'none'}, {'race/ethnicity': 'group E', 'test preparation course':
'completed'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'completed'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group D', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group B', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}, {'race/ethnicity': 'group C', 'test preparation course':
'completed'}, {'race/ethnicity': 'group D', 'test preparation course':
'none'}]

```

6. Crear un diccionario de diccionarios que solo tenga race/ethnicity y test preparation score

```

with open('./exams.csv') as csvfile:
    list = {}
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    cont = 1
    for student in students:
        iterador = zip(columnas, student)
        list['Estudiante '+str(cont)] = {clave: valor for clave, valor
in iterador if clave == 'race/ethnicity' or clave == 'test preparation
course'}

```

```
    cont += 1
print(list)
```

```
{'Estudiante 1': {'race/ethnicity': 'group A', 'test preparation
course': 'completed'}, 'Estudiante 2': {'race/ethnicity': 'group D',
'test preparation course': 'none'}, 'Estudiante 3': {'race/ethnicity':
'group E', 'test preparation course': 'none'}, 'Estudiante 4':
{'race/ethnicity': 'group B', 'test preparation course': 'none'},
'Estudiante 5': {'race/ethnicity': 'group E', 'test preparation
course': 'completed'}, 'Estudiante 6': {'race/ethnicity': 'group D',
'test preparation course': 'none'}, 'Estudiante 7': {'race/ethnicity':
'group A', 'test preparation course': 'none'}, 'Estudiante 8':
{'race/ethnicity': 'group E', 'test preparation course': 'completed'},
'Estudiante 9': {'race/ethnicity': 'group D', 'test preparation
course': 'none'}, 'Estudiante 10': {'race/ethnicity': 'group C', 'test
preparation course': 'none'}, 'Estudiante 11': {'race/ethnicity':
'group E', 'test preparation course': 'completed'}, 'Estudiante 12':
{'race/ethnicity': 'group D', 'test preparation course': 'completed'},
'Estudiante 13': {'race/ethnicity': 'group D', 'test preparation
course': 'completed'}, 'Estudiante 14': {'race/ethnicity': 'group C',
'test preparation course': 'completed'}, 'Estudiante 15':
{'race/ethnicity': 'group E', 'test preparation course': 'completed'},
'Estudiante 16': {'race/ethnicity': 'group E', 'test preparation
course': 'none'}, 'Estudiante 17': {'race/ethnicity': 'group B', 'test
preparation course': 'none'}, 'Estudiante 18': {'race/ethnicity':
'group C', 'test preparation course': 'completed'}, 'Estudiante 19':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 20': {'race/ethnicity': 'group C', 'test preparation
course': 'none'}, 'Estudiante 21': {'race/ethnicity': 'group C', 'test
preparation course': 'none'}, 'Estudiante 22': {'race/ethnicity':
'group C', 'test preparation course': 'none'}, 'Estudiante 23':
{'race/ethnicity': 'group B', 'test preparation course': 'completed'},
'Estudiante 24': {'race/ethnicity': 'group B', 'test preparation
course': 'none'}, 'Estudiante 25': {'race/ethnicity': 'group E', 'test
preparation course': 'none'}, 'Estudiante 26': {'race/ethnicity':
'group C', 'test preparation course': 'none'}, 'Estudiante 27':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 28': {'race/ethnicity': 'group E', 'test preparation
course': 'none'}, 'Estudiante 29': {'race/ethnicity': 'group B', 'test
preparation course': 'completed'}, 'Estudiante 30': {'race/ethnicity':
'group A', 'test preparation course': 'none'}, 'Estudiante 31':
{'race/ethnicity': 'group B', 'test preparation course': 'none'},
'Estudiante 32': {'race/ethnicity': 'group A', 'test preparation
course': 'none'}, 'Estudiante 33': {'race/ethnicity': 'group A', 'test
preparation course': 'completed'}, 'Estudiante 34': {'race/ethnicity':
'group B', 'test preparation course': 'completed'}, 'Estudiante 35':
{'race/ethnicity': 'group B', 'test preparation course': 'completed'},
'Estudiante 36': {'race/ethnicity': 'group A', 'test preparation
course': 'none'}, 'Estudiante 37': {'race/ethnicity': 'group C', 'test
preparation course': 'completed'}, 'Estudiante 38': {'race/ethnicity':
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```

'Estudiante 229': {'race/ethnicity': 'group D', 'test preparation
course': 'none'}, 'Estudiante 230': {'race/ethnicity': 'group C',
'test preparation course': 'completed'}, 'Estudiante 231':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 232': {'race/ethnicity': 'group B', 'test preparation
course': 'none'}, 'Estudiante 233': {'race/ethnicity': 'group C',
'test preparation course': 'none'}, 'Estudiante 234':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 235': {'race/ethnicity': 'group B', 'test preparation
course': 'none'}, 'Estudiante 236': {'race/ethnicity': 'group C',
'test preparation course': 'completed'}, 'Estudiante 237':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 238': {'race/ethnicity': 'group D', 'test preparation
course': 'none'}, 'Estudiante 239': {'race/ethnicity': 'group B',
'test preparation course': 'none'}, 'Estudiante 240':
{'race/ethnicity': 'group C', 'test preparation course': 'completed'},
'Estudiante 241': {'race/ethnicity': 'group D', 'test preparation
course': 'none'}, 'Estudiante 242': {'race/ethnicity': 'group D',
'test preparation course': 'completed'}, 'Estudiante 243':
{'race/ethnicity': 'group D', 'test preparation course': 'none'},
'Estudiante 244': {'race/ethnicity': 'group C', 'test preparation
course': 'none'}, 'Estudiante 245': {'race/ethnicity': 'group B',
'test preparation course': 'none'}, 'Estudiante 246':
{'race/ethnicity': 'group C', 'test preparation course': 'none'},
'Estudiante 247': {'race/ethnicity': 'group C', 'test preparation
course': 'completed'}, 'Estudiante 248': {'race/ethnicity': 'group D',
'test preparation course': 'none'}, 'Estudiante 249':
{'race/ethnicity': 'group C', 'test preparation course': 'completed'},
'Estudiante 250': {'race/ethnicity': 'group D', 'test preparation
course': 'none'}}

```

7. Crear un diccionario de diccionarios con todos los registros y todas columnas del csv, excepto: math score,reading score,writing score, todos estos datos excluidos deben ser agregados a cada diccionario en una lista con la clave: Score

```

with open('./exams.csv') as csvfile:
    list = {}
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    del columnas[5:8]
    cont = 1
    for student in students:
        list_students = []
        iterador = zip(columnas,student)
        l = {clave: valor for clave, valor in iterador}
        for i in range(5,8):
            list_students.append(student[i])
        l['Score'] = list_students
        list['Estudiante ' + str(cont)] = l
        cont += 1
    print(list)

```

```
{'Estudiante 1': {'gender': 'male', 'race/ethnicity': 'group A',  
'parental level of education': 'high school', 'lunch': 'standard',  
'test preparation course': 'completed', 'Score': ['67', '67', '63']},  
'Estudiante 2': {'gender': 'female', 'race/ethnicity': 'group D',  
'parental level of education': 'some high school', 'lunch':  
'free/reduced', 'test preparation course': 'none', 'Score': ['40',  
'59', '55']}, 'Estudiante 3': {'gender': 'male', 'race/ethnicity':  
'group E', 'parental level of education': 'some college', 'lunch':  
'free/reduced', 'test preparation course': 'none', 'Score': ['59',  
'60', '50']}, 'Estudiante 4': {'gender': 'male', 'race/ethnicity':  
'group B', 'parental level of education': 'high school', 'lunch':  
'standard', 'test preparation course': 'none', 'Score': ['77', '78',  
'68']}, 'Estudiante 5': {'gender': 'male', 'race/ethnicity': 'group  
E', 'parental level of education': "associate's degree", 'lunch':  
'standard', 'test preparation course': 'completed', 'Score': ['78',  
'73', '68']}, 'Estudiante 6': {'gender': 'female', 'race/ethnicity':  
'group D', 'parental level of education': 'high school', 'lunch':  
'standard', 'test preparation course': 'none', 'Score': ['63', '77',  
'76']}, 'Estudiante 7': {'gender': 'female', 'race/ethnicity': 'group  
A', 'parental level of education': "bachelor's degree", 'lunch':  
'standard', 'test preparation course': 'none', 'Score': ['62', '59',  
'63']}, 'Estudiante 8': {'gender': 'male', 'race/ethnicity': 'group  
E', 'parental level of education': 'some college', 'lunch':  
'standard', 'test preparation course': 'completed', 'Score': ['93',  
'88', '84']}, 'Estudiante 9': {'gender': 'male', 'race/ethnicity':  
'group D', 'parental level of education': 'high school', 'lunch':  
'standard', 'test preparation course': 'none', 'Score': ['63', '56',  
'65']}, 'Estudiante 10': {'gender': 'male', 'race/ethnicity': 'group  
C', 'parental level of education': 'some college', 'lunch':  
'free/reduced', 'test preparation course': 'none', 'Score': ['47',  
'42', '45']}, 'Estudiante 11': {'gender': 'male', 'race/ethnicity':  
'group E', 'parental level of education': 'some college', 'lunch':  
'standard', 'test preparation course': 'completed', 'Score': ['99',  
'83', '85']}, 'Estudiante 12': {'gender': 'female', 'race/ethnicity':  
'group D', 'parental level of education': 'high school', 'lunch':  
'standard', 'test preparation course': 'completed', 'Score': ['80',  
'87', '90']}, 'Estudiante 13': {'gender': 'male', 'race/ethnicity':  
'group D', 'parental level of education': "associate's degree",  
'lunch': 'standard', 'test preparation course': 'completed', 'Score':  
['77', '87', '85']}, 'Estudiante 14': {'gender': 'male',  
'race/ethnicity': 'group C', 'parental level of education': 'high  
school', 'lunch': 'standard', 'test preparation course': 'completed',  
'Score': ['74', '74', '73']}, 'Estudiante 15': {'gender': 'male',  
'race/ethnicity': 'group E', 'parental level of education': 'some high  
school', 'lunch': 'standard', 'test preparation course': 'completed',  
'Score': ['81', '87', '85']}, 'Estudiante 16': {'gender': 'male',  
'race/ethnicity': 'group E', 'parental level of education':  
"associate's degree", 'lunch': 'free/reduced', 'test preparation  
course': 'none', 'Score': ['69', '61', '57']}, 'Estudiante 17':  
{'gender': 'male', 'race/ethnicity': 'group B', 'parental level of
```

education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['58', '47', '42']}, 'Estudiante 18': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['54', '62', '65']}, 'Estudiante 19': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['23', '44', '44']}, 'Estudiante 20': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['39', '32', '31']}, 'Estudiante 21': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['83', '76', '88']}, 'Estudiante 22': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['58', '52', '55']}, 'Estudiante 23': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['71', '69', '73']}, 'Estudiante 24': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['44', '55', '54']}, 'Estudiante 25': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['46', '38', '32']}, 'Estudiante 26': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['51', '45', '42']}, 'Estudiante 27': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['53', '60', '56']}, 'Estudiante 28': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['71', '68', '60']}, 'Estudiante 29': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['74', '89', '89']}, 'Estudiante 30': {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['33', '54', '51']}, 'Estudiante 31': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['87', '79', '77']}, 'Estudiante 32': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['78', '74', '73']}, 'Estudiante 33': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test

preparation course': 'completed', 'Score': ['40', '41', '39']},
'Estudiante 34': {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'Score': ['65',
'65', '71']}, 'Estudiante 35': {'gender': 'female', 'race/ethnicity':
'group B', 'parental level of education': "bachelor's degree",
'lunch': 'standard', 'test preparation course': 'completed', 'Score':
['79', '88', '89']}, 'Estudiante 36': {'gender': 'female',
'race/ethnicity': 'group A', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['68', '74', '74']}, 'Estudiante 37': {'gender':
'female', 'race/ethnicity': 'group C', 'parental level of education':
'some college', 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['57', '77', '75']}, 'Estudiante 38': {'gender':
'male', 'race/ethnicity': 'group B', 'parental level of education':
'high school', 'lunch': 'free/reduced', 'test preparation course':
'none', 'Score': ['67', '65', '54']}, 'Estudiante 39': {'gender':
'female', 'race/ethnicity': 'group B', 'parental level of education':
'some college', 'lunch': 'free/reduced', 'test preparation course':
'completed', 'Score': ['58', '68', '73']}, 'Estudiante 40': {'gender':
'male', 'race/ethnicity': 'group E', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['98', '81', '77']}, 'Estudiante 41': {'gender':
'female', 'race/ethnicity': 'group B', 'parental level of education':
"master's degree", 'lunch': 'free/reduced', 'test preparation course':
'none', 'Score': ['54', '75', '72']}, 'Estudiante 42': {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
'high school', 'lunch': 'standard', 'test preparation course': 'none',
'Score': ['77', '67', '64']}, 'Estudiante 43': {'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'high
school', 'lunch': 'standard', 'test preparation course': 'completed',
'Score': ['87', '79', '82']}, 'Estudiante 44': {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education': "master's
degree", 'lunch': 'standard', 'test preparation course': 'none',
'Score': ['58', '70', '70']}, 'Estudiante 45': {'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'high
school', 'lunch': 'standard', 'test preparation course': 'none',
'Score': ['100', '88', '87']}, 'Estudiante 46': {'gender': 'male',
'race/ethnicity': 'group C', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['60', '46', '51']}, 'Estudiante 47': {'gender':
'male', 'race/ethnicity': 'group C', 'parental level of education':
"associate's degree", 'lunch': 'free/reduced', 'test preparation
course': 'none', 'Score': ['64', '63', '57']}, 'Estudiante 48':
{'gender': 'female', 'race/ethnicity': 'group E', 'parental level of
education': 'some high school', 'lunch': 'standard', 'test preparation
course': 'completed', 'Score': ['65', '76', '78']}, 'Estudiante 49':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'none', 'Score': ['68', '72', '73']}, 'Estudiante 50':


```
{'gender': 'male', 'race/ethnicity': 'group C', 'parental level of
education': "associate's degree", 'lunch': 'free/reduced', 'test
preparation course': 'completed', 'Score': ['60', '63', '57']},
'Estudiante 51': {'gender': 'male', 'race/ethnicity': 'group D',
'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'Score': ['65', '68', '64']},
'Estudiante 52': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'Score': ['52',
'58', '60']}, 'Estudiante 53': {'gender': 'female', 'race/ethnicity':
'group C', 'parental level of education': "associate's degree",
'lunch': 'standard', 'test preparation course': 'none', 'Score':
['74', '81', '85']}, 'Estudiante 54': {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education': 'high
school', 'lunch': 'free/reduced', 'test preparation course': 'none',
'Score': ['36', '53', '49']}, 'Estudiante 55': {'gender': 'male',
'race/ethnicity': 'group D', 'parental level of education': 'high
school', 'lunch': 'free/reduced', 'test preparation course': 'none',
'Score': ['57', '57', '47']}, 'Estudiante 56': {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education': 'some
college', 'lunch': 'standard', 'test preparation course': 'completed',
'Score': ['56', '60', '62']}, 'Estudiante 57': {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['67', '80', '84']}, 'Estudiante 58': {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['88', '87', '83']}, 'Estudiante 59': {'gender':
'female', 'race/ethnicity': 'group D', 'parental level of education':
'some college', 'lunch': 'free/reduced', 'test preparation course':
'none', 'Score': ['42', '61', '51']}, 'Estudiante 60': {'gender':
'male', 'race/ethnicity': 'group E', 'parental level of education':
'some high school', 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['68', '51', '48']}, 'Estudiante 61': {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
'some college', 'lunch': 'free/reduced', 'test preparation course':
'none', 'Score': ['76', '66', '68']}, 'Estudiante 62': {'gender':
'female', 'race/ethnicity': 'group E', 'parental level of education':
'some high school', 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['58', '63', '59']}, 'Estudiante 63': {'gender':
'male', 'race/ethnicity': 'group E', 'parental level of education':
'some high school', 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['69', '67', '62']}, 'Estudiante 64': {'gender':
'male', 'race/ethnicity': 'group A', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['77', '82', '78']}, 'Estudiante 65': {'gender':
'male', 'race/ethnicity': 'group D', 'parental level of education':
"master's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['83', '93', '97']}, 'Estudiante 66': {'gender':
'female', 'race/ethnicity': 'group C', 'parental level of education':
```

'some high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['49', '74', '70']}, 'Estudiante 67': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['71', '60', '56']}, 'Estudiante 68': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['47', '46', '49']}, 'Estudiante 69': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['79', '64', '60']}, 'Estudiante 70': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['60', '64', '57']}, 'Estudiante 71': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['56', '68', '73']}, 'Estudiante 72': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['57', '52', '47']}, 'Estudiante 73': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['49', '70', '63']}, 'Estudiante 74': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['79', '76', '81']}, 'Estudiante 75': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'master's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['71', '76', '67']}, 'Estudiante 76': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['71', '77', '70']}, 'Estudiante 77': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['47', '63', '59']}, 'Estudiante 78': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['72', '91', '81']}, 'Estudiante 79': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['78', '73', '76']}, 'Estudiante 80': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['54', '43', '45']}, 'Estudiante 81': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['46', '59', '62']}, 'Estudiante 82': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation

course': 'none', 'Score': ['31', '38', '42']}, 'Estudiante 83': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['51', '59', '59']}, 'Estudiante 84': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['78', '76', '73']}, 'Estudiante 85': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['32', '41', '39']}, 'Estudiante 86': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['53', '71', '69']}, 'Estudiante 87': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['63', '76', '69']}, 'Estudiante 88': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['97', '93', '88']}, 'Estudiante 89': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['56', '52', '61']}, 'Estudiante 90': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['72', '76', '72']}, 'Estudiante 91': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['57', '47', '42']}, 'Estudiante 92': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['74', '71', '70']}, 'Estudiante 93': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['81', '81', '87']}, 'Estudiante 94': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['94', '87', '93']}, 'Estudiante 95': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "master's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['81', '73', '72']}, 'Estudiante 96': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['58', '63', '67']}, 'Estudiante 97': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['95', '100', '100']}, 'Estudiante 98': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['45', '52', '49']}, 'Estudiante 99': {'gender': 'male',

'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['63', '50', '49']], 'Estudiante 100': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['60', '54', '53']], 'Estudiante 101': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['54', '61', '62']], 'Estudiante 102': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['75', '78', '79']], 'Estudiante 103': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['79', '78', '77']], 'Estudiante 104': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['66', '67', '67']], 'Estudiante 105': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['47', '58', '58']], 'Estudiante 106': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['70', '78', '82']], 'Estudiante 107': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['82', '74', '73']], 'Estudiante 108': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['56', '38', '44']], 'Estudiante 109': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['92', '78', '71']], 'Estudiante 110': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['30', '33', '33']], 'Estudiante 111': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['79', '88', '86']], 'Estudiante 112': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['41', '52', '47']], 'Estudiante 113': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['63', '82', '71']], 'Estudiante 114': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'bachelor's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['43', '34', '33']], 'Estudiante 115': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch':

'standard', 'test preparation course': 'none', 'Score': ['77', '76', '74']}, 'Estudiante 116': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['76', '79', '76']}, 'Estudiante 117': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['49', '61', '63']}, 'Estudiante 118': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['59', '57', '55']}, 'Estudiante 119': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['59', '70', '58']}, 'Estudiante 120': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['76', '90', '87']}, 'Estudiante 121': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['55', '71', '71']}, 'Estudiante 122': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['78', '87', '89']}, 'Estudiante 123': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['51', '53', '62']}, 'Estudiante 124': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['41', '43', '45']}, 'Estudiante 125': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['74', '78', '86']}, 'Estudiante 126': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['62', '54', '58']}, 'Estudiante 127': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['77', '71', '64']}, 'Estudiante 128': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['45', '52', '45']}, 'Estudiante 129': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['100', '84', '87']}, 'Estudiante 130': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['83', '95', '100']}, 'Estudiante 131': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch':

'free/reduced', 'test preparation course': 'completed', 'Score': ['77', '75', '82']}, 'Estudiante 132': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['66', '70', '64']}, 'Estudiante 133': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['65', '63', '57']}, 'Estudiante 134': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['62', '55', '56']}, 'Estudiante 135': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['55', '54', '54']}, 'Estudiante 136': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['73', '78', '69']}, 'Estudiante 137': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['73', '81', '76']}, 'Estudiante 138': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['48', '66', '68']}, 'Estudiante 139': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['52', '44', '49']}, 'Estudiante 140': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['60', '72', '64']}, 'Estudiante 141': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['68', '63', '57']}, 'Estudiante 142': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['65', '77', '83']}, 'Estudiante 143': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['86', '83', '87']}, 'Estudiante 144': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['55', '62', '60']}, 'Estudiante 145': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['80', '71', '68']}, 'Estudiante 146': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['51', '57', '57']}, 'Estudiante 147': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation

course': 'completed', 'Score': ['63', '61', '66']}, 'Estudiante 148': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['60', '55', '46']}, 'Estudiante 149': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['100', '100', '100']}, 'Estudiante 150': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['46', '44', '44']}, 'Estudiante 151': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['67', '78', '80']}, 'Estudiante 152': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['54', '67', '59']}, 'Estudiante 153': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['63', '79', '76']}, 'Estudiante 154': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['68', '66', '73']}, 'Estudiante 155': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['54', '63', '58']}, 'Estudiante 156': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['43', '44', '47']}, 'Estudiante 157': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['64', '64', '59']}, 'Estudiante 158': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['92', '87', '87']}, 'Estudiante 159': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['82', '95', '93']}, 'Estudiante 160': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['84', '78', '79']}, 'Estudiante 161': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['84', '98', '97']}, 'Estudiante 162': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['65', '63', '65']}, 'Estudiante 163': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test

preparation course': 'none', 'Score': ['83', '92', '91']}, 'Estudiante 164': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['70', '75', '75']}, 'Estudiante 165': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['66', '72', '70']}, 'Estudiante 166': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['71', '87', '92']}, 'Estudiante 167': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['66', '64', '58']}, 'Estudiante 168': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['57', '64', '68']}, 'Estudiante 169': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['86', '90', '93']}, 'Estudiante 170': {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['80', '85', '83']}, 'Estudiante 171': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['62', '60', '59']}, 'Estudiante 172': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['71', '71', '76']}, 'Estudiante 173': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['57', '66', '71']}, 'Estudiante 174': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['69', '64', '62']}, 'Estudiante 175': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['83', '74', '72']}, 'Estudiante 176': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['50', '56', '60']}, 'Estudiante 177': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['55', '56', '56']}, 'Estudiante 178': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['55', '53', '51']}, 'Estudiante 179': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course':

'completed', 'Score': ['83', '93', '95']}, 'Estudiante 180':
{'gender': 'male', 'race/ethnicity': 'group D', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'completed', 'Score': ['89', '87', '86']}, 'Estudiante 181':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'some high school', 'lunch': 'standard', 'test preparation
course': 'none', 'Score': ['51', '62', '64']}, 'Estudiante 182':
{'gender': 'female', 'race/ethnicity': 'group C', 'parental level of
education': 'some college', 'lunch': 'standard', 'test preparation
course': 'none', 'Score': ['48', '52', '49']}, 'Estudiante 183':
{'gender': 'female', 'race/ethnicity': 'group E', 'parental level of
education': "bachelor's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'Score': ['84', '95', '89']}, 'Estudiante
184': {'gender': 'female', 'race/ethnicity': 'group C', 'parental
level of education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'Score': ['69', '83', '76']}, 'Estudiante
185': {'gender': 'female', 'race/ethnicity': 'group C', 'parental
level of education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'completed', 'Score': ['75', '85', '87']},
'Estudiante 186': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': "master's degree", 'lunch': 'standard',
'test preparation course': 'none', 'Score': ['91', '100', '99']},
'Estudiante 187': {'gender': 'male', 'race/ethnicity': 'group B',
'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'Score': ['76', '77', '67']},
'Estudiante 188': {'gender': 'male', 'race/ethnicity': 'group E',
'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'Score': ['63',
'61', '59']}, 'Estudiante 189': {'gender': 'male', 'race/ethnicity':
'group D', 'parental level of education': 'high school', 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['73', '65',
'64']}, 'Estudiante 190': {'gender': 'male', 'race/ethnicity': 'group
B', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'completed', 'Score':
['52', '63', '53']}, 'Estudiante 191': {'gender': 'male',
'race/ethnicity': 'group B', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'completed',
'Score': ['58', '57', '53']}, 'Estudiante 192': {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'none',
'Score': ['33', '51', '51']}, 'Estudiante 193': {'gender': 'male',
'race/ethnicity': 'group E', 'parental level of education': 'some high
school', 'lunch': 'free/reduced', 'test preparation course': 'none',
'Score': ['68', '62', '61']}, 'Estudiante 194': {'gender': 'female',
'race/ethnicity': 'group C', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['77', '91', '89']}, 'Estudiante 195':
{'gender': 'female', 'race/ethnicity': 'group C', 'parental level of
education': "bachelor's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'Score': ['64', '64', '66']}, 'Estudiante

196': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['39', '49', '48']}, 'Estudiante 197': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['50', '46', '48']}, 'Estudiante 198': {'gender': 'male', 'race/ethnicity': 'group A', 'parental level of education': 'master's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['53', '57', '51']}, 'Estudiante 199': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['54', '62', '70']}, 'Estudiante 200': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['74', '63', '65']}, 'Estudiante 201': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['50', '63', '65']}, 'Estudiante 202': {'gender': 'male', 'race/ethnicity': 'group E', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['55', '54', '47']}, 'Estudiante 203': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['77', '64', '70']}, 'Estudiante 204': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['49', '64', '67']}, 'Estudiante 205': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'associate's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['66', '83', '82']}, 'Estudiante 206': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['77', '74', '75']}, 'Estudiante 207': {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['74', '78', '84']}, 'Estudiante 208': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['85', '78', '81']}, 'Estudiante 209': {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['77', '86', '84']}, 'Estudiante 210': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['64', '62', '66']}, 'Estudiante 211': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['61', '69', '68']}, 'Estudiante 212': {'gender': 'male',

'race/ethnicity': 'group D', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'none', 'Score': ['97', '88', '85']], 'Estudiante 213': {'gender':
'male', 'race/ethnicity': 'group C', 'parental level of education':
'some college', 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['66', '75', '70']], 'Estudiante 214':
{'gender': 'male', 'race/ethnicity': 'group C', 'parental level of
education': 'some high school', 'lunch': 'standard', 'test preparation
course': 'none', 'Score': ['62', '66', '64']], 'Estudiante 215':
{'gender': 'female', 'race/ethnicity': 'group E', 'parental level of
education': 'some high school', 'lunch': 'standard', 'test preparation
course': 'completed', 'Score': ['64', '80', '77']], 'Estudiante 216':
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of
education': "bachelor's degree", 'lunch': 'free/reduced', 'test
preparation course': 'none', 'Score': ['55', '57', '60']], 'Estudiante
217': {'gender': 'female', 'race/ethnicity': 'group B', 'parental
level of education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'Score': ['53', '72', '66']], 'Estudiante
218': {'gender': 'female', 'race/ethnicity': 'group D', 'parental
level of education': 'some college', 'lunch': 'free/reduced', 'test
preparation course': 'none', 'Score': ['71', '81', '77']], 'Estudiante
219': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level
of education': 'high school', 'lunch': 'free/reduced', 'test
preparation course': 'completed', 'Score': ['66', '59', '68']],
'Estudiante 220': {'gender': 'male', 'race/ethnicity': 'group C',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['68', '61',
'62']], 'Estudiante 221': {'gender': 'male', 'race/ethnicity': 'group
D', 'parental level of education': 'some college', 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['89', '90',
'83']], 'Estudiante 222': {'gender': 'male', 'race/ethnicity': 'group
C', 'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'completed', 'Score': ['65',
'69', '74']], 'Estudiante 223': {'gender': 'female', 'race/ethnicity':
'group B', 'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['43', '48',
'44']], 'Estudiante 224': {'gender': 'female', 'race/ethnicity':
'group D', 'parental level of education': "master's degree", 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['79', '77',
'83']], 'Estudiante 225': {'gender': 'male', 'race/ethnicity': 'group
D', 'parental level of education': "bachelor's degree", 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['99', '94',
'97']], 'Estudiante 226': {'gender': 'male', 'race/ethnicity': 'group
D', 'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['82', '69',
'72']], 'Estudiante 227': {'gender': 'male', 'race/ethnicity': 'group
D', 'parental level of education': 'some college', 'lunch':
'free/reduced', 'test preparation course': 'completed', 'Score':
['35', '36', '39']], 'Estudiante 228': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education':

"bachelor's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['61', '71', '73']}, 'Estudiante 229': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['76', '80', '81']}, 'Estudiante 230': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'completed', 'Score': ['94', '83', '82']}, 'Estudiante 231': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['75', '90', '78']}, 'Estudiante 232': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['81', '75', '70']}, 'Estudiante 233': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'Score': ['35', '44', '33']}, 'Estudiante 234': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['76', '74', '72']}, 'Estudiante 235': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['58', '79', '82']}, 'Estudiante 236': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['100', '91', '90']}, 'Estudiante 237': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['53', '68', '64']}, 'Estudiante 238': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['82', '95', '96']}, 'Estudiante 239': {'gender': 'male', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['76', '62', '64']}, 'Estudiante 240': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['83', '75', '75']}, 'Estudiante 241': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['72', '84', '82']}, 'Estudiante 242': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'Score': ['76', '76', '83']}, 'Estudiante 243': {'gender': 'male', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'Score': ['66', '64', '58']}, 'Estudiante 244': {'gender': 'male', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch':

```
'standard', 'test preparation course': 'none', 'Score': ['63', '65',
'63']}, 'Estudiante 245': {'gender': 'male', 'race/ethnicity': 'group
B', 'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'Score': ['36', '34',
'28']}, 'Estudiante 246': {'gender': 'male', 'race/ethnicity': 'group
C', 'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'Score': ['68', '74', '71']},
'Estudiante 247': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'completed', 'Score':
['40', '52', '42']}, 'Estudiante 248': {'gender': 'male',
'race/ethnicity': 'group D', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'none',
'Score': ['68', '71', '61']}, 'Estudiante 249': {'gender': 'male',
'race/ethnicity': 'group C', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'Score': ['56', '54', '52']}, 'Estudiante 250':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': "associate's degree", 'lunch': 'free/reduced', 'test
preparation course': 'none', 'Score': ['74', '83', '80']}
```

8. Crear un diccionario de tuplas en donde la tupla contenga math score, reading score, writing score

```
with open('./exams.csv') as csvfile:
    dicc = {}
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    cont = 1
    for student in students:
        dicc['Estudiante '+str(cont)] = {tuple
([student[5],student[6],student[7])) }
        cont +=1
    print(dicc)
```

```
{'Estudiante 1': (('67', '67', '63'))}, 'Estudiante 2': (('40', '59',
'55'))}, 'Estudiante 3': (('59', '60', '50'))}, 'Estudiante 4': (('77',
'78', '68'))}, 'Estudiante 5': (('78', '73', '68'))}, 'Estudiante 6':
(('63', '77', '76'))}, 'Estudiante 7': (('62', '59', '63'))},
'Estudiante 8': (('93', '88', '84'))}, 'Estudiante 9': (('63', '56',
'65'))}, 'Estudiante 10': (('47', '42', '45'))}, 'Estudiante 11':
(('99', '83', '85'))}, 'Estudiante 12': (('80', '87', '90'))},
'Estudiante 13': (('77', '87', '85'))}, 'Estudiante 14': (('74', '74',
'73'))}, 'Estudiante 15': (('81', '87', '85'))}, 'Estudiante 16':
(('69', '61', '57'))}, 'Estudiante 17': (('58', '47', '42'))},
'Estudiante 18': (('54', '62', '65'))}, 'Estudiante 19': (('23', '44',
'44'))}, 'Estudiante 20': (('39', '32', '31'))}, 'Estudiante 21':
(('83', '76', '88'))}, 'Estudiante 22': (('58', '52', '55'))},
'Estudiante 23': (('71', '69', '73'))}, 'Estudiante 24': (('44', '55',
'54'))}, 'Estudiante 25': (('46', '38', '32'))}, 'Estudiante 26':
(('51', '45', '42'))}, 'Estudiante 27': (('53', '60', '56'))},
```

'Estudiante 28': {('71', '68', '60')}, 'Estudiante 29': {('74', '89', '89')}, 'Estudiante 30': {('33', '54', '51')}, 'Estudiante 31': {('87', '79', '77')}, 'Estudiante 32': {('78', '74', '73')}, 'Estudiante 33': {('40', '41', '39')}, 'Estudiante 34': {('65', '65', '71')}, 'Estudiante 35': {('79', '88', '89')}, 'Estudiante 36': {('68', '74', '74')}, 'Estudiante 37': {('57', '77', '75')}, 'Estudiante 38': {('67', '65', '54')}, 'Estudiante 39': {('58', '68', '73')}, 'Estudiante 40': {('98', '81', '77')}, 'Estudiante 41': {('54', '75', '72')}, 'Estudiante 42': {('77', '67', '64')}, 'Estudiante 43': {('87', '79', '82')}, 'Estudiante 44': {('58', '70', '70')}, 'Estudiante 45': {('100', '88', '87')}, 'Estudiante 46': {('60', '46', '51')}, 'Estudiante 47': {('64', '63', '57')}, 'Estudiante 48': {('65', '76', '78')}, 'Estudiante 49': {('68', '72', '73')}, 'Estudiante 50': {('60', '63', '57')}, 'Estudiante 51': {('65', '68', '64')}, 'Estudiante 52': {('52', '58', '60')}, 'Estudiante 53': {('74', '81', '85')}, 'Estudiante 54': {('36', '53', '49')}, 'Estudiante 55': {('57', '57', '47')}, 'Estudiante 56': {('56', '60', '62')}, 'Estudiante 57': {('67', '80', '84')}, 'Estudiante 58': {('88', '87', '83')}, 'Estudiante 59': {('42', '61', '51')}, 'Estudiante 60': {('68', '51', '48')}, 'Estudiante 61': {('76', '66', '68')}, 'Estudiante 62': {('58', '63', '59')}, 'Estudiante 63': {('69', '67', '62')}, 'Estudiante 64': {('77', '82', '78')}, 'Estudiante 65': {('83', '93', '97')}, 'Estudiante 66': {('49', '74', '70')}, 'Estudiante 67': {('71', '60', '56')}, 'Estudiante 68': {('47', '46', '49')}, 'Estudiante 69': {('79', '64', '60')}, 'Estudiante 70': {('60', '64', '57')}, 'Estudiante 71': {('56', '68', '73')}, 'Estudiante 72': {('57', '52', '47')}, 'Estudiante 73': {('49', '70', '63')}, 'Estudiante 74': {('79', '76', '81')}, 'Estudiante 75': {('71', '76', '67')}, 'Estudiante 76': {('71', '77', '70')}, 'Estudiante 77': {('47', '63', '59')}, 'Estudiante 78': {('72', '91', '81')}, 'Estudiante 79': {('78', '73', '76')}, 'Estudiante 80': {('54', '43', '45')}, 'Estudiante 81': {('46', '59', '62')}, 'Estudiante 82': {('31', '38', '42')}, 'Estudiante 83': {('51', '59', '59')}, 'Estudiante 84': {('78', '76', '73')}, 'Estudiante 85': {('32', '41', '39')}, 'Estudiante 86': {('53', '71', '69')}, 'Estudiante 87': {('63', '76', '69')}, 'Estudiante 88': {('97', '93', '88')}, 'Estudiante 89': {('56', '52', '61')}, 'Estudiante 90': {('72', '76', '72')}, 'Estudiante 91': {('57', '47', '42')}, 'Estudiante 92': {('74', '71', '70')}, 'Estudiante 93': {('81', '81', '87')}, 'Estudiante 94': {('94', '87', '93')}, 'Estudiante 95': {('81', '73', '72')}, 'Estudiante 96': {('58', '63', '67')}, 'Estudiante 97': {('95', '100', '100')}, 'Estudiante 98': {('45', '52', '49')}, 'Estudiante 99': {('63', '50', '49')}, 'Estudiante 100': {('60', '54', '53')}, 'Estudiante 101': {('54', '61', '62')}, 'Estudiante 102': {('75', '78', '79')}, 'Estudiante 103': {('79', '78', '77')}, 'Estudiante 104': {('66', '67', '67')}, 'Estudiante 105': {('47', '58', '58')}, 'Estudiante 106': {('70', '78', '82')}, 'Estudiante 107': {('82', '74', '73')}, 'Estudiante 108': {('56', '38', '44')}, 'Estudiante 109': {('92', '78', '71')}, 'Estudiante 110': {('30', '33', '33')}, 'Estudiante

111': {'79', '88', '86'}}, 'Estudiante 112': {'41', '52', '47'}},
'Estudiante 113': {'63', '82', '71'}}, 'Estudiante 114': {'43',
'34', '33'}}, 'Estudiante 115': {'77', '76', '74'}}, 'Estudiante
116': {'76', '79', '76'}}, 'Estudiante 117': {'49', '61', '63'}},
'Estudiante 118': {'59', '57', '55'}}, 'Estudiante 119': {'59',
'70', '58'}}, 'Estudiante 120': {'76', '90', '87'}}, 'Estudiante
121': {'55', '71', '71'}}, 'Estudiante 122': {'78', '87', '89'}},
'Estudiante 123': {'51', '53', '62'}}, 'Estudiante 124': {'41',
'43', '45'}}, 'Estudiante 125': {'74', '78', '86'}}, 'Estudiante
126': {'62', '54', '58'}}, 'Estudiante 127': {'77', '71', '64'}},
'Estudiante 128': {'45', '52', '45'}}, 'Estudiante 129': {'100',
'84', '87'}}, 'Estudiante 130': {'83', '95', '100'}}, 'Estudiante
131': {'77', '75', '82'}}, 'Estudiante 132': {'66', '70', '64'}},
'Estudiante 133': {'65', '63', '57'}}, 'Estudiante 134': {'62',
'55', '56'}}, 'Estudiante 135': {'55', '54', '54'}}, 'Estudiante
136': {'73', '78', '69'}}, 'Estudiante 137': {'73', '81', '76'}},
'Estudiante 138': {'48', '66', '68'}}, 'Estudiante 139': {'52',
'44', '49'}}, 'Estudiante 140': {'60', '72', '64'}}, 'Estudiante
141': {'68', '63', '57'}}, 'Estudiante 142': {'65', '77', '83'}},
'Estudiante 143': {'86', '83', '87'}}, 'Estudiante 144': {'55',
'62', '60'}}, 'Estudiante 145': {'80', '71', '68'}}, 'Estudiante
146': {'51', '57', '57'}}, 'Estudiante 147': {'63', '61', '66'}},
'Estudiante 148': {'60', '55', '46'}}, 'Estudiante 149': {'100',
'100', '100'}}, 'Estudiante 150': {'46', '44', '44'}}, 'Estudiante
151': {'67', '78', '80'}}, 'Estudiante 152': {'54', '67', '59'}},
'Estudiante 153': {'63', '79', '76'}}, 'Estudiante 154': {'68',
'66', '73'}}, 'Estudiante 155': {'54', '63', '58'}}, 'Estudiante
156': {'43', '44', '47'}}, 'Estudiante 157': {'64', '64', '59'}},
'Estudiante 158': {'92', '87', '87'}}, 'Estudiante 159': {'82',
'95', '93'}}, 'Estudiante 160': {'84', '78', '79'}}, 'Estudiante
161': {'84', '98', '97'}}, 'Estudiante 162': {'65', '63', '65'}},
'Estudiante 163': {'83', '92', '91'}}, 'Estudiante 164': {'70',
'75', '75'}}, 'Estudiante 165': {'66', '72', '70'}}, 'Estudiante
166': {'71', '87', '92'}}, 'Estudiante 167': {'66', '64', '58'}},
'Estudiante 168': {'57', '64', '68'}}, 'Estudiante 169': {'86',
'90', '93'}}, 'Estudiante 170': {'80', '85', '83'}}, 'Estudiante
171': {'62', '60', '59'}}, 'Estudiante 172': {'71', '71', '76'}},
'Estudiante 173': {'57', '66', '71'}}, 'Estudiante 174': {'69',
'64', '62'}}, 'Estudiante 175': {'83', '74', '72'}}, 'Estudiante
176': {'50', '56', '60'}}, 'Estudiante 177': {'55', '56', '56'}},
'Estudiante 178': {'55', '53', '51'}}, 'Estudiante 179': {'83',
'93', '95'}}, 'Estudiante 180': {'89', '87', '86'}}, 'Estudiante
181': {'51', '62', '64'}}, 'Estudiante 182': {'48', '52', '49'}},
'Estudiante 183': {'84', '95', '89'}}, 'Estudiante 184': {'69',
'83', '76'}}, 'Estudiante 185': {'75', '85', '87'}}, 'Estudiante
186': {'91', '100', '99'}}, 'Estudiante 187': {'76', '77', '67'}},
'Estudiante 188': {'63', '61', '59'}}, 'Estudiante 189': {'73',
'65', '64'}}, 'Estudiante 190': {'52', '63', '53'}}, 'Estudiante
191': {'58', '57', '53'}}, 'Estudiante 192': {'33', '51', '51'}},
'Estudiante 193': {'68', '62', '61'}}, 'Estudiante 194': {'77',

```
'91', '89')}}, 'Estudiante 195': {('64', '64', '66')}, 'Estudiante
196': {('39', '49', '48')}, 'Estudiante 197': {('50', '46', '48')},
'Estudiante 198': {('53', '57', '51')}, 'Estudiante 199': {('54',
'62', '70')}, 'Estudiante 200': {('74', '63', '65')}, 'Estudiante
201': {('50', '63', '65')}, 'Estudiante 202': {('55', '54', '47')},
'Estudiante 203': {('77', '64', '70')}, 'Estudiante 204': {('49',
'64', '67')}, 'Estudiante 205': {('66', '83', '82')}, 'Estudiante
206': {('77', '74', '75')}, 'Estudiante 207': {('74', '78', '84')},
'Estudiante 208': {('85', '78', '81')}, 'Estudiante 209': {('77',
'86', '84')}, 'Estudiante 210': {('64', '62', '66')}, 'Estudiante
211': {('61', '69', '68')}, 'Estudiante 212': {('97', '88', '85')},
'Estudiante 213': {('66', '75', '70')}, 'Estudiante 214': {('62',
'66', '64')}, 'Estudiante 215': {('64', '80', '77')}, 'Estudiante
216': {('55', '57', '60')}, 'Estudiante 217': {('53', '72', '66')},
'Estudiante 218': {('71', '81', '77')}, 'Estudiante 219': {('66',
'59', '68')}, 'Estudiante 220': {('68', '61', '62')}, 'Estudiante
221': {('89', '90', '83')}, 'Estudiante 222': {('65', '69', '74')},
'Estudiante 223': {('43', '48', '44')}, 'Estudiante 224': {('79',
'77', '83')}, 'Estudiante 225': {('99', '94', '97')}, 'Estudiante
226': {('82', '69', '72')}, 'Estudiante 227': {('35', '36', '39')},
'Estudiante 228': {('61', '71', '73')}, 'Estudiante 229': {('76',
'80', '81')}, 'Estudiante 230': {('94', '83', '82')}, 'Estudiante
231': {('75', '90', '78')}, 'Estudiante 232': {('81', '75', '70')},
'Estudiante 233': {('35', '44', '33')}, 'Estudiante 234': {('76',
'74', '72')}, 'Estudiante 235': {('58', '79', '82')}, 'Estudiante
236': {('100', '91', '90')}, 'Estudiante 237': {('53', '68', '64')},
'Estudiante 238': {('82', '95', '96')}, 'Estudiante 239': {('76',
'62', '64')}, 'Estudiante 240': {('83', '75', '75')}, 'Estudiante
241': {('72', '84', '82')}, 'Estudiante 242': {('76', '76', '83')},
'Estudiante 243': {('66', '64', '58')}, 'Estudiante 244': {('63',
'65', '63')}, 'Estudiante 245': {('36', '34', '28')}, 'Estudiante
246': {('68', '74', '71')}, 'Estudiante 247': {('40', '52', '42')},
'Estudiante 248': {('68', '71', '61')}, 'Estudiante 249': {('56',
'54', '52')}, 'Estudiante 250': {('74', '83', '80')}
```

9. Crear un diccionario de diccionarios que solo tenga estudiantes de gender female.

```
with open('./exams.csv') as csvfile:
    list = {}
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    cont = 1
    for student in students:
        iterador = zip(columnas, student)
        if student[0] == 'female':
            list['Estudiante '+str(cont)] = {clave: valor for clave,
            valor in iterador}
            cont += 1
    print(list)
```



```
{'Estudiante 1': {'gender': 'female', 'race/ethnicity': 'group D',  
'parental level of education': 'some high school', 'lunch':  
'free/reduced', 'test preparation course': 'none', 'math score': '40',  
'reading score': '59', 'writing score': '55'}, 'Estudiante 2':  
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of  
education': 'high school', 'lunch': 'standard', 'test preparation  
course': 'none', 'math score': '63', 'reading score': '77', 'writing  
score': '76'}, 'Estudiante 3': {'gender': 'female', 'race/ethnicity':  
'group A', 'parental level of education': "bachelor's degree",  
'lunch': 'standard', 'test preparation course': 'none', 'math score':  
'62', 'reading score': '59', 'writing score': '63'}, 'Estudiante 4':  
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of  
education': 'high school', 'lunch': 'standard', 'test preparation  
course': 'completed', 'math score': '80', 'reading score': '87',  
'writing score': '90'}, 'Estudiante 5': {'gender': 'female',  
'race/ethnicity': 'group C', 'parental level of education':  
"associate's degree", 'lunch': 'standard', 'test preparation course':  
'completed', 'math score': '54', 'reading score': '62', 'writing  
score': '65'}, 'Estudiante 6': {'gender': 'female', 'race/ethnicity':  
'group C', 'parental level of education': "associate's degree",  
'lunch': 'free/reduced', 'test preparation course': 'none', 'math  
score': '23', 'reading score': '44', 'writing score': '44'},  
'Estudiante 7': {'gender': 'female', 'race/ethnicity': 'group C',  
'parental level of education': "associate's degree", 'lunch':  
'standard', 'test preparation course': 'none', 'math score': '83',  
'reading score': '76', 'writing score': '88'}, 'Estudiante 8':  
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of  
education': 'some college', 'lunch': 'free/reduced', 'test preparation  
course': 'none', 'math score': '44', 'reading score': '55', 'writing  
score': '54'}, 'Estudiante 9': {'gender': 'female', 'race/ethnicity':  
'group C', 'parental level of education': 'some high school', 'lunch':  
'standard', 'test preparation course': 'none', 'math score': '53',  
'reading score': '60', 'writing score': '56'}, 'Estudiante 10':  
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of  
education': 'high school', 'lunch': 'standard', 'test preparation  
course': 'completed', 'math score': '74', 'reading score': '89',  
'writing score': '89'}, 'Estudiante 11': {'gender': 'female',  
'race/ethnicity': 'group A', 'parental level of education': 'some high  
school', 'lunch': 'free/reduced', 'test preparation course': 'none',  
'math score': '33', 'reading score': '54', 'writing score': '51'},  
'Estudiante 12': {'gender': 'female', 'race/ethnicity': 'group B',  
'parental level of education': "associate's degree", 'lunch':  
'standard', 'test preparation course': 'completed', 'math score':  
'65', 'reading score': '65', 'writing score': '71'}, 'Estudiante 13':  
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of  
education': "bachelor's degree", 'lunch': 'standard', 'test  
preparation course': 'completed', 'math score': '79', 'reading score':  
'88', 'writing score': '89'}, 'Estudiante 14': {'gender': 'female',  
'race/ethnicity': 'group A', 'parental level of education':  
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
```

'none', 'math score': '68', 'reading score': '74', 'writing score': '74'}, 'Estudiante 15': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '57', 'reading score': '77', 'writing score': '75'}, 'Estudiante 16': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '58', 'reading score': '68', 'writing score': '73'}, 'Estudiante 17': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'master's degree', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '75', 'writing score': '72'}, 'Estudiante 18': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '58', 'reading score': '70', 'writing score': '70'}, 'Estudiante 19': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '65', 'reading score': '76', 'writing score': '78'}, 'Estudiante 20': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '68', 'reading score': '72', 'writing score': '73'}, 'Estudiante 21': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '52', 'reading score': '58', 'writing score': '60'}, 'Estudiante 22': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '74', 'reading score': '81', 'writing score': '85'}, 'Estudiante 23': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '36', 'reading score': '53', 'writing score': '49'}, 'Estudiante 24': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '56', 'reading score': '60', 'writing score': '62'}, 'Estudiante 25': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '67', 'reading score': '80', 'writing score': '84'}, 'Estudiante 26': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '42', 'reading score': '61', 'writing score': '51'}, 'Estudiante 27': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '58', 'reading score': '63', 'writing score': '59'}, 'Estudiante 28': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch':

'free/reduced', 'test preparation course': 'completed', 'math score': '49', 'reading score': '74', 'writing score': '70'}, 'Estudiante 29': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '47', 'reading score': '46', 'writing score': '49'}, 'Estudiante 30': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '60', 'reading score': '64', 'writing score': '57'}, 'Estudiante 31': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '56', 'reading score': '68', 'writing score': '73'}, 'Estudiante 32': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '49', 'reading score': '70', 'writing score': '63'}, 'Estudiante 33': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '79', 'reading score': '76', 'writing score': '81'}, 'Estudiante 34': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '71', 'reading score': '77', 'writing score': '70'}, 'Estudiante 35': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '47', 'reading score': '63', 'writing score': '59'}, 'Estudiante 36': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '72', 'reading score': '91', 'writing score': '81'}, 'Estudiante 37': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '46', 'reading score': '59', 'writing score': '62'}, 'Estudiante 38': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '31', 'reading score': '38', 'writing score': '42'}, 'Estudiante 39': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '51', 'reading score': '59', 'writing score': '59'}, 'Estudiante 40': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '32', 'reading score': '41', 'writing score': '39'}, 'Estudiante 41': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '53', 'reading score': '71', 'writing score': '69'}, 'Estudiante 42': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of

education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '63', 'reading score': '76', 'writing score': '69'}, 'Estudiante 43': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '56', 'reading score': '52', 'writing score': '61'}, 'Estudiante 44': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '81', 'reading score': '81', 'writing score': '87'}, 'Estudiante 45': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '58', 'reading score': '63', 'writing score': '67'}, 'Estudiante 46': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'associate's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '95', 'reading score': '100', 'writing score': '100'}, 'Estudiante 47': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '47', 'reading score': '58', 'writing score': '58'}, 'Estudiante 48': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '70', 'reading score': '78', 'writing score': '82'}, 'Estudiante 49': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '79', 'reading score': '88', 'writing score': '86'}, 'Estudiante 50': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '41', 'reading score': '52', 'writing score': '47'}, 'Estudiante 51': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'master's degree', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '82', 'writing score': '71'}, 'Estudiante 52': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '49', 'reading score': '61', 'writing score': '63'}, 'Estudiante 53': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '76', 'reading score': '90', 'writing score': '87'}, 'Estudiante 54': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '55', 'reading score': '71', 'writing score': '71'}, 'Estudiante 55': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'bachelor's degree', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '78', 'reading score': '87', 'writing score': '89'}, 'Estudiante 56': {'gender': 'female', 'race/ethnicity':

'group C', 'parental level of education': 'bachelor's degree',
'lunch': 'standard', 'test preparation course': 'completed', 'math
score': '51', 'reading score': '53', 'writing score': '62'},
'Estudiante 57': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'41', 'reading score': '43', 'writing score': '45'}, 'Estudiante 58':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'associate's degree', 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '74', 'reading score':
'78', 'writing score': '86'}, 'Estudiante 59': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education':
'associate's degree', 'lunch': 'free/reduced', 'test preparation
course': 'completed', 'math score': '83', 'reading score': '95',
'writing score': '100'}, 'Estudiante 60': {'gender': 'female',
'race/ethnicity': 'group E', 'parental level of education':
'associate's degree', 'lunch': 'free/reduced', 'test preparation
course': 'completed', 'math score': '77', 'reading score': '75',
'writing score': '82'}, 'Estudiante 61': {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education':
'associate's degree', 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '48', 'reading score': '66', 'writing
score': '68'}, 'Estudiante 62': {'gender': 'female', 'race/ethnicity':
'group C', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '60',
'reading score': '72', 'writing score': '64'}, 'Estudiante 63':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'some college', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '65', 'reading score': '77', 'writing
score': '83'}, 'Estudiante 64': {'gender': 'female', 'race/ethnicity':
'group D', 'parental level of education': 'bachelor's degree',
'lunch': 'standard', 'test preparation course': 'none', 'math score':
'86', 'reading score': '83', 'writing score': '87'}, 'Estudiante 65':
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of
education': 'associate's degree', 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '55', 'reading score':
'62', 'writing score': '60'}, 'Estudiante 66': {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education': 'high
school', 'lunch': 'free/reduced', 'test preparation course': 'none',
'math score': '51', 'reading score': '57', 'writing score': '57'},
'Estudiante 67': {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'completed', 'math score':
'63', 'reading score': '61', 'writing score': '66'}, 'Estudiante 68':
{'gender': 'female', 'race/ethnicity': 'group E', 'parental level of
education': 'bachelor's degree', 'lunch': 'standard', 'test
preparation course': 'completed', 'math score': '100', 'reading
score': '100', 'writing score': '100'}, 'Estudiante 69': {'gender':
'female', 'race/ethnicity': 'group C', 'parental level of education':
'some college', 'lunch': 'standard', 'test preparation course':

'completed', 'math score': '67', 'reading score': '78', 'writing score': '80'}, 'Estudiante 70': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'high school', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '67', 'writing score': '59'}, 'Estudiante 71': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '63', 'reading score': '79', 'writing score': '76'}, 'Estudiante 72': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '54', 'reading score': '63', 'writing score': '58'}, 'Estudiante 73': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '43', 'reading score': '44', 'writing score': '47'}, 'Estudiante 74': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '92', 'reading score': '87', 'writing score': '87'}, 'Estudiante 75': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '82', 'reading score': '95', 'writing score': '93'}, 'Estudiante 76': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '84', 'reading score': '98', 'writing score': '97'}, 'Estudiante 77': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '83', 'reading score': '92', 'writing score': '91'}, 'Estudiante 78': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '70', 'reading score': '75', 'writing score': '75'}, 'Estudiante 79': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '71', 'reading score': '87', 'writing score': '92'}, 'Estudiante 80': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '57', 'reading score': '64', 'writing score': '68'}, 'Estudiante 81': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '86', 'reading score': '90', 'writing score': '93'}, 'Estudiante 82': {'gender': 'female', 'race/ethnicity': 'group A', 'parental level of education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '80', 'reading score': '85', 'writing score': '83'}, 'Estudiante 83': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of

education': 'high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '62', 'reading score': '60', 'writing score': '59'}, 'Estudiante 84': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '71', 'reading score': '71', 'writing score': '76'}, 'Estudiante 85': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '57', 'reading score': '66', 'writing score': '71'}, 'Estudiante 86': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'none', 'math score': '50', 'reading score': '56', 'writing score': '60'}, 'Estudiante 87': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '55', 'reading score': '56', 'writing score': '56'}, 'Estudiante 88': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some college', 'lunch': 'free/reduced', 'test preparation course': 'completed', 'math score': '83', 'reading score': '93', 'writing score': '95'}, 'Estudiante 89': {'gender': 'female', 'race/ethnicity': 'group D', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '51', 'reading score': '62', 'writing score': '64'}, 'Estudiante 90': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': 'some college', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '48', 'reading score': '52', 'writing score': '49'}, 'Estudiante 91': {'gender': 'female', 'race/ethnicity': 'group E', 'parental level of education': "bachelor's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '84', 'reading score': '95', 'writing score': '89'}, 'Estudiante 92': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '69', 'reading score': '83', 'writing score': '76'}, 'Estudiante 93': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '75', 'reading score': '85', 'writing score': '87'}, 'Estudiante 94': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "master's degree", 'lunch': 'standard', 'test preparation course': 'none', 'math score': '91', 'reading score': '100', 'writing score': '99'}, 'Estudiante 95': {'gender': 'female', 'race/ethnicity': 'group B', 'parental level of education': 'some high school', 'lunch': 'standard', 'test preparation course': 'none', 'math score': '33', 'reading score': '51', 'writing score': '51'}, 'Estudiante 96': {'gender': 'female', 'race/ethnicity': 'group C', 'parental level of education': "associate's degree", 'lunch': 'standard', 'test preparation course': 'completed', 'math score': '77', 'reading score': '91', 'writing score': '89'}, 'Estudiante 97': {'gender': 'female',

'race/ethnicity': 'group C', 'parental level of education':
"bachelor's degree", 'lunch': 'standard', 'test preparation course':
'none', 'math score': '64', 'reading score': '64', 'writing score':
'66'}, 'Estudiante 98': {'gender': 'female', 'race/ethnicity': 'group
D', 'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '39',
'reading score': '49', 'writing score': '48'}, 'Estudiante 99':
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of
education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'completed', 'math score': '54', 'reading score':
'62', 'writing score': '70'}, 'Estudiante 100': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education':
"associate's degree", 'lunch': 'standard', 'test preparation course':
'completed', 'math score': '50', 'reading score': '63', 'writing
score': '65'}, 'Estudiante 101': {'gender': 'female',
'race/ethnicity': 'group B', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'completed',
'math score': '49', 'reading score': '64', 'writing score': '67'},
'Estudiante 102': {'gender': 'female', 'race/ethnicity': 'group D',
'parental level of education': "associate's degree", 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '66',
'reading score': '83', 'writing score': '82'}, 'Estudiante 103':
{'gender': 'female', 'race/ethnicity': 'group A', 'parental level of
education': "master's degree", 'lunch': 'standard', 'test preparation
course': 'completed', 'math score': '74', 'reading score': '78',
'writing score': '84'}, 'Estudiante 104': {'gender': 'female',
'race/ethnicity': 'group A', 'parental level of education': 'some
college', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '77', 'reading score': '86', 'writing score': '84'},
'Estudiante 105': {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': "associate's degree", 'lunch':
'standard', 'test preparation course': 'none', 'math score': '64',
'reading score': '62', 'writing score': '66'}, 'Estudiante 106':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'high school', 'lunch': 'free/reduced', 'test preparation
course': 'completed', 'math score': '61', 'reading score': '69',
'writing score': '68'}, 'Estudiante 107': {'gender': 'female',
'race/ethnicity': 'group E', 'parental level of education': 'some high
school', 'lunch': 'standard', 'test preparation course': 'completed',
'math score': '64', 'reading score': '80', 'writing score': '77'},
'Estudiante 108': {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': "bachelor's degree", 'lunch':
'free/reduced', 'test preparation course': 'none', 'math score': '55',
'reading score': '57', 'writing score': '60'}, 'Estudiante 109':
{'gender': 'female', 'race/ethnicity': 'group B', 'parental level of
education': "associate's degree", 'lunch': 'standard', 'test
preparation course': 'none', 'math score': '53', 'reading score':
'72', 'writing score': '66'}, 'Estudiante 110': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education': 'some
college', 'lunch': 'free/reduced', 'test preparation course': 'none',


```
'math score': '71', 'reading score': '81', 'writing score': '77'},
'Estudiante 111': {'gender': 'female', 'race/ethnicity': 'group B',
'parental level of education': 'some high school', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '43',
'reading score': '48', 'writing score': '44'}, 'Estudiante 112':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'master's degree', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '79', 'reading score': '77', 'writing
score': '83'}, 'Estudiante 113': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education':
'bachelor's degree', 'lunch': 'free/reduced', 'test preparation
course': 'none', 'math score': '61', 'reading score': '71', 'writing
score': '73'}, 'Estudiante 114': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education': 'high
school', 'lunch': 'standard', 'test preparation course': 'none', 'math
score': '76', 'reading score': '80', 'writing score': '81'},
'Estudiante 115': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'high school', 'lunch': 'standard',
'test preparation course': 'none', 'math score': '75', 'reading
score': '90', 'writing score': '78'}, 'Estudiante 116': {'gender':
'female', 'race/ethnicity': 'group B', 'parental level of education':
'bachelor's degree', 'lunch': 'standard', 'test preparation course':
'none', 'math score': '58', 'reading score': '79', 'writing score':
'82'}, 'Estudiante 117': {'gender': 'female', 'race/ethnicity': 'group
C', 'parental level of education': 'bachelor's degree', 'lunch':
'standard', 'test preparation course': 'none', 'math score': '53',
'reading score': '68', 'writing score': '64'}, 'Estudiante 118':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'high school', 'lunch': 'standard', 'test preparation
course': 'none', 'math score': '82', 'reading score': '95', 'writing
score': '96'}, 'Estudiante 119': {'gender': 'female',
'race/ethnicity': 'group D', 'parental level of education': 'some
college', 'lunch': 'standard', 'test preparation course': 'none',
'math score': '72', 'reading score': '84', 'writing score': '82'},
'Estudiante 120': {'gender': 'female', 'race/ethnicity': 'group C',
'parental level of education': 'some high school', 'lunch':
'free/reduced', 'test preparation course': 'completed', 'math score':
'40', 'reading score': '52', 'writing score': '42'}, 'Estudiante 121':
{'gender': 'female', 'race/ethnicity': 'group D', 'parental level of
education': 'associate's degree', 'lunch': 'free/reduced', 'test
preparation course': 'none', 'math score': '74', 'reading score':
'83', 'writing score': '80'}}
```

10. Crear un diccionario de tuplas, donde la tupla contenga gender, race/ethnicity y el promedio de las columnas: math score, reading score y writing score.

```
with open('./exams.csv') as csvfile:
    dicc = {}
    list_aux = []
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
```

```

cont = 1
for student in students:
    for i in range(5,8):
        list_aux.append(int(student[i]))
        dicc['Estudiante '+str(cont)] = {tuple
([student[0],student[1],mean(list_aux)])}
        cont +=1
print(dicc)

{'Estudiante 1': {('male', 'group A', 65.66666666666667)}, 'Estudiante
2': {('female', 'group D', 58.5)}, 'Estudiante 3': {('male', 'group
E', 57.77777777777778)}, 'Estudiante 4': {('male', 'group B',
61.916666666666664)}, 'Estudiante 5': {('male', 'group E',
64.13333333333334)}, 'Estudiante 6': {('female', 'group D',
65.44444444444444)}, 'Estudiante 7': {('female', 'group A',
64.85714285714286)}, 'Estudiante 8': {('male', 'group E',
67.79166666666667)}, 'Estudiante 9': {('male', 'group D',
67.07407407407408)}, 'Estudiante 10': {('male', 'group C',
64.83333333333333)}, 'Estudiante 11': {('male', 'group E',
67.03030303030303)}, 'Estudiante 12': {('female', 'group D',
68.58333333333333)}, 'Estudiante 13': {('male', 'group D',
69.6923076923077)}, 'Estudiante 14': {('male', 'group C',
69.97619047619048)}, 'Estudiante 15': {('male', 'group E',
70.93333333333334)}, 'Estudiante 16': {('male', 'group E',
70.39583333333333)}, 'Estudiante 17': {('male', 'group B',
69.13725490196079)}, 'Estudiante 18': {('female', 'group C',
68.64814814814815)}, 'Estudiante 19': {('female', 'group C',
66.98245614035088)}, 'Estudiante 20': {('male', 'group C',
65.33333333333333)}, 'Estudiante 21': {('female', 'group C',
66.14285714285714)}, 'Estudiante 22': {('male', 'group C',
65.63636363636364)}, 'Estudiante 23': {('male', 'group B',
65.8695652173913)}, 'Estudiante 24': {('female', 'group B', 65.25)},
'Estudiante 25': {('male', 'group E', 64.18666666666667)}, 'Estudiante
26': {('male', 'group C', 63.48717948717949)}, 'Estudiante 27':
{('female', 'group C', 63.22222222222222)}, 'Estudiante 28': {('male',
'group E', 63.33333333333336)}, 'Estudiante 29': {('female', 'group
B', 64.04597701149426)}, 'Estudiante 30': {('female', 'group A',
63.44444444444444)}, 'Estudiante 31': {('male', 'group B',
64.01075268817205)}, 'Estudiante 32': {('male', 'group A',
64.35416666666667)}, 'Estudiante 33': {('male', 'group A',
63.61616161616162)}, 'Estudiante 34': {('female', 'group B',
63.71568627450981)}, 'Estudiante 35': {('female', 'group B',
64.33333333333333)}, 'Estudiante 36': {('female', 'group A',
64.54629629629629)}, 'Estudiante 37': {('female', 'group C',
64.68468468468468)}, 'Estudiante 38': {('male', 'group B',
64.6140350877193)}, 'Estudiante 39': {('female', 'group B',
64.65811965811966)}, 'Estudiante 40': {('male', 'group E', 65.175)},
'Estudiante 41': {('female', 'group B', 65.21951219512195)},
'Estudiante 42': {('male', 'group D', 65.31746031746032)}, 'Estudiante
43': {('male', 'group E', 65.72093023255815)}, 'Estudiante 44':

```

{('female', 'group C', 65.72727272727273)}, 'Estudiante 45': {('male', 'group E', 66.3037037037037)}, 'Estudiante 46': {('male', 'group C', 66)}, 'Estudiante 47': {('male', 'group C', 65.90070921985816)}, 'Estudiante 48': {('female', 'group E', 66.04861111111111)}, 'Estudiante 49': {('female', 'group D', 66.14965986394557)}, 'Estudiante 50': {('male', 'group C', 66.02666666666667)}, 'Estudiante 51': {('male', 'group D', 66.01960784313725)}, 'Estudiante 52': {('female', 'group C', 65.83974358974359)}, 'Estudiante 53': {('female', 'group C', 66.10691823899371)}, 'Estudiante 54': {('female', 'group C', 65.73456790123457)}, 'Estudiante 55': {('male', 'group D', 65.51515151515152)}, 'Estudiante 56': {('female', 'group C', 65.4047619047619)}, 'Estudiante 57': {('female', 'group C', 65.60818713450293)}, 'Estudiante 58': {('male', 'group D', 65.95977011494253)}, 'Estudiante 59': {('female', 'group D', 65.71186440677967)}, 'Estudiante 60': {('male', 'group E', 65.54444444444445)}, 'Estudiante 61': {('male', 'group D', 65.61748633879782)}, 'Estudiante 62': {('female', 'group E', 65.52688172043011)}, 'Estudiante 63': {('male', 'group E', 65.53439153439153)}, 'Estudiante 64': {('male', 'group A', 65.74479166666667)}, 'Estudiante 65': {('male', 'group D', 66.13333333333334)}, 'Estudiante 66': {('female', 'group C', 66.10606060606061)}, 'Estudiante 67': {('male', 'group C', 66.04975124378109)}, 'Estudiante 68': {('female', 'group D', 65.77450980392157)}, 'Estudiante 69': {('male', 'group B', 65.80193236714976)}, 'Estudiante 70': {('female', 'group C', 65.72380952380952)}, 'Estudiante 71': {('female', 'group C', 65.72300469483568)}, 'Estudiante 72': {('male', 'group C', 65.5324074074074)}, 'Estudiante 73': {('female', 'group B', 65.46575342465754)}, 'Estudiante 74': {('female', 'group C', 65.64414414414415)}, 'Estudiante 75': {('male', 'group B', 65.72)}, 'Estudiante 76': {('female', 'group C', 65.81140350877193)}, 'Estudiante 77': {('female', 'group C', 65.68831168831169)}, 'Estudiante 78': {('female', 'group D', 65.88888888888889)}, 'Estudiante 79': {('male', 'group C', 66.0126582278481)}, 'Estudiante 80': {('male', 'group D', 65.77916666666667)}, 'Estudiante 81': {('female', 'group B', 65.65432098765432)}, 'Estudiante 82': {('female', 'group D', 65.3048780487805)}, 'Estudiante 83': {('female', 'group C', 65.19678714859438)}, 'Estudiante 84': {('male', 'group B', 65.32142857142857)}, 'Estudiante 85': {('female', 'group B', 64.99215686274509)}, 'Estudiante 86': {('female', 'group C', 64.98449612403101)}, 'Estudiante 87': {('female', 'group C', 65.03448275862068)}, 'Estudiante 88': {('male', 'group D', 65.34848484848484)}, 'Estudiante 89': {('female', 'group D', 65.24719101123596)}, 'Estudiante 90': {('male', 'group B', 65.33703703703704)}, 'Estudiante 91': {('male', 'group C', 65.15384615384616)}, 'Estudiante 92': {('male', 'group B', 65.22463768115942)}, 'Estudiante 93': {('female', 'group D', 65.415770609319)}, 'Estudiante 94': {('male', 'group D', 65.69148936170212)}, 'Estudiante 95': {('male', 'group B', 65.79298245614035)}, 'Estudiante 96': {('female', 'group C',

65.76041666666667)}, 'Estudiante 97': {'female', 'group E',
66.09621993127148)}, 'Estudiante 98': {'male', 'group B',
65.91836734693878)}, 'Estudiante 99': {'male', 'group A',
65.79797979797979)}, 'Estudiante 100': {'male', 'group B',
65.69666666666667)}, 'Estudiante 101': {'male', 'group C',
65.63036303630363)}, 'Estudiante 102': {'male', 'group C',
65.74509803921569)}, 'Estudiante 103': {'male', 'group E',
65.86407766990291)}, 'Estudiante 104': {'male', 'group D',
65.87179487179488)}, 'Estudiante 105': {'female', 'group B',
65.76190476190476)}, 'Estudiante 106': {'female', 'group D',
65.86477987421384)}, 'Estudiante 107': {'male', 'group D',
65.96261682242991)}, 'Estudiante 108': {'male', 'group A',
65.77777777777777)}, 'Estudiante 109': {'male', 'group B',
65.91131498470948)}, 'Estudiante 110': {'male', 'group C',
65.60303030303031)}, 'Estudiante 111': {'female', 'group C',
65.77177177177177)}, 'Estudiante 112': {'female', 'group D',
65.60119047619048)}, 'Estudiante 113': {'female', 'group C',
65.65781710914455)}, 'Estudiante 114': {'male', 'group A',
65.40350877192982)}, 'Estudiante 115': {'male', 'group D',
65.4927536231884)}, 'Estudiante 116': {'male', 'group B',
65.5919540229885)}, 'Estudiante 117': {'female', 'group E',
65.52421652421653)}, 'Estudiante 118': {'male', 'group C',
65.45197740112994)}, 'Estudiante 119': {'male', 'group B',
65.42577030812325)}, 'Estudiante 120': {'female', 'group D',
65.58333333333333)}, 'Estudiante 121': {'female', 'group C',
65.5840220385675)}, 'Estudiante 122': {'female', 'group D',
65.74043715846994)}, 'Estudiante 123': {'female', 'group C',
65.65582655826559)}, 'Estudiante 124': {'female', 'group C',
65.47311827956989)}, 'Estudiante 125': {'female', 'group D',
65.584)}, 'Estudiante 126': {'male', 'group C', 65.52380952380952)},
'Estudiante 127': {'male', 'group D', 65.56430446194226)},
'Estudiante 128': {'male', 'group C', 65.421875)}, 'Estudiante 129':
{('male', 'group E', 65.61498708010336)}, 'Estudiante 130':
{('female', 'group D', 65.82307692307693)}, 'Estudiante 131':
{('female', 'group E', 65.91603053435115)}, 'Estudiante 132':
{('male', 'group C', 65.92171717171718)}, 'Estudiante 133': {'male',
'group B', 65.88972431077694)}, 'Estudiante 134': {'male', 'group D',
65.82835820895522)}, 'Estudiante 135': {'male', 'group E',
65.7432098765432)}, 'Estudiante 136': {'male', 'group C',
65.79901960784314)}, 'Estudiante 137': {'male', 'group A',
65.87834549878346)}, 'Estudiante 138': {'female', 'group B',
65.84057971014492)}, 'Estudiante 139': {'male', 'group D',
65.71462829736211)}, 'Estudiante 140': {'female', 'group C',
65.71190476190476)}, 'Estudiante 141': {'male', 'group B',
65.6903073286052)}, 'Estudiante 142': {'female', 'group D',
65.75586854460094)}, 'Estudiante 143': {'female', 'group D',
65.89277389277389)}, 'Estudiante 144': {'female', 'group B',
65.8449074074074)}, 'Estudiante 145': {'male', 'group B',
65.89425287356322)}, 'Estudiante 146': {'female', 'group B',
65.81963470319634)}, 'Estudiante 147': {'female', 'group B',

65.80272108843538)), 'Estudiante 148': {('male', 'group E',
65.72072072072072)), 'Estudiante 149': {('female', 'group E',
65.95078299776286)), 'Estudiante 150': {('male', 'group A',
65.80888888888889)), 'Estudiante 151': {('female', 'group C',
65.86975717439293)), 'Estudiante 152': {('female', 'group C',
65.83114035087719)), 'Estudiante 153': {('female', 'group B',
65.87581699346406)), 'Estudiante 154': {('male', 'group D',
65.8961038961039)), 'Estudiante 155': {('female', 'group C',
65.84731182795699)), 'Estudiante 156': {('female', 'group C',
65.71153846153847)), 'Estudiante 157': {('male', 'group B',
65.6900212314225)), 'Estudiante 158': {('female', 'group E',
65.83544303797468)), 'Estudiante 159': {('female', 'group D',
65.9874213836478)), 'Estudiante 160': {('male', 'group E',
66.07708333333333)), 'Estudiante 161': {('female', 'group D',
66.24430641821947)), 'Estudiante 162': {('male', 'group D',
66.23251028806584)), 'Estudiante 163': {('female', 'group C',
66.37014314928426)), 'Estudiante 164': {('female', 'group B',
66.41260162601625)), 'Estudiante 165': {('male', 'group A',
66.43030303030304)), 'Estudiante 166': {('female', 'group D',
66.53212851405623)), 'Estudiante 167': {('male', 'group B',
66.50898203592814)), 'Estudiante 168': {('female', 'group B',
66.48809523809524)), 'Estudiante 169': {('female', 'group C',
66.62524654832347)), 'Estudiante 170': {('female', 'group A',
66.71960784313725)), 'Estudiante 171': {('female', 'group B',
66.682261208577)), 'Estudiante 172': {('female', 'group D',
66.71705426356588)), 'Estudiante 173': {('female', 'group C',
66.70520231213872)), 'Estudiante 174': {('male', 'group A',
66.69540229885058)), 'Estudiante 175': {('male', 'group B',
66.75047619047619)), 'Estudiante 176': {('female', 'group D',
66.68560606060606)), 'Estudiante 177': {('female', 'group C',
66.62335216572505)), 'Estudiante 178': {('male', 'group B',
66.54681647940075)), 'Estudiante 179': {('female', 'group D',
66.67970204841713)), 'Estudiante 180': {('male', 'group D',
66.79444444444445)), 'Estudiante 181': {('female', 'group D',
66.7513812154696)), 'Estudiante 182': {('female', 'group C',
66.65750915750915)), 'Estudiante 183': {('female', 'group E',
66.78142076502732)), 'Estudiante 184': {('female', 'group C',
66.83152173913044)), 'Estudiante 185': {('female', 'group C',
66.91531531531531)), 'Estudiante 186': {('female', 'group C',
67.0752688172043)), 'Estudiante 187': {('male', 'group B',
67.10873440285205)), 'Estudiante 188': {('male', 'group E',
67.07624113475177)), 'Estudiante 189': {('male', 'group D',
67.07760141093475)), 'Estudiante 190': {('male', 'group B',
67.01929824561404)), 'Estudiante 191': {('male', 'group B',
66.96160558464223)), 'Estudiante 192': {('female', 'group B',
66.84722222222223)), 'Estudiante 193': {('male', 'group E',
66.8307426597582)), 'Estudiante 194': {('female', 'group C',
66.9278350515464)), 'Estudiante 195': {('female', 'group C',
66.91623931623931)), 'Estudiante 196': {('female', 'group D',
66.8061224489796)), 'Estudiante 197': {('male', 'group D',

66.71065989847716)), 'Estudiante 198': {('male', 'group A',
66.64478114478115)), 'Estudiante 199': {('female', 'group B',
66.6214405360134)), 'Estudiante 200': {('male', 'group D', 66.625)),
'Estudiante 201': {('female', 'group D', 66.58872305140962)),
'Estudiante 202': {('male', 'group E', 66.51650165016501)),
'Estudiante 203': {('male', 'group C', 66.5353037766831)), 'Estudiante
204': {('female', 'group B', 66.50326797385621)), 'Estudiante 205':
{('female', 'group D', 66.55447154471544)), 'Estudiante 206':
{('male', 'group B', 66.59708737864078)), 'Estudiante 207':
{('female', 'group A', 66.65539452495975)), 'Estudiante 208':
{('male', 'group C', 66.72596153846153)), 'Estudiante 209':
{('female', 'group A', 66.80063795853269)), 'Estudiante 210':
{('female', 'group B', 66.78730158730158)), 'Estudiante 211':
{('female', 'group D', 66.78357030015798)), 'Estudiante 212':
{('male', 'group D', 66.89308176100629)), 'Estudiante 213': {('male',
'group C', 66.90923317683881)), 'Estudiante 214': {('male', 'group C',
66.89563862928348)), 'Estudiante 215': {('female', 'group E',
66.92713178294574)), 'Estudiante 216': {('female', 'group B',
66.88271604938272)), 'Estudiante 217': {('female', 'group B',
66.8678955453149)), 'Estudiante 218': {('female', 'group D',
66.91131498470948)), 'Estudiante 219': {('male', 'group B',
66.89954337899543)), 'Estudiante 220': {('male', 'group C',
66.88484848484849)), 'Estudiante 221': {('male', 'group D',
66.97737556561086)), 'Estudiante 222': {('male', 'group C',
66.98798798798799)), 'Estudiante 223': {('female', 'group B',
66.88938714499253)), 'Estudiante 224': {('female', 'group D',
66.94642857142857)), 'Estudiante 225': {('male', 'group D',
67.07851851851852)), 'Estudiante 226': {('male', 'group D',
67.11061946902655)), 'Estudiante 227': {('male', 'group D',
66.97650513950073)), 'Estudiante 228': {('female', 'group D',
66.98245614035088)), 'Estudiante 229': {('female', 'group D',
67.0349344978166)), 'Estudiante 230': {('male', 'group C',
67.11884057971014)), 'Estudiante 231': {('female', 'group C',
67.17893217893217)), 'Estudiante 232': {('male', 'group B',
67.21408045977012)), 'Estudiante 233': {('male', 'group C',
67.08583690987125)), 'Estudiante 234': {('male', 'group C',
67.11538461538461)), 'Estudiante 235': {('female', 'group B',
67.1404255319149)), 'Estudiante 236': {('male', 'group C',
67.25282485875707)), 'Estudiante 237': {('female', 'group C',
67.22925457102673)), 'Estudiante 238': {('female', 'group D',
67.32913165266106)), 'Estudiante 239': {('male', 'group B',
67.32914923291493)), 'Estudiante 240': {('male', 'group C',
67.37222222222222)), 'Estudiante 241': {('female', 'group D',
67.42185338865836)), 'Estudiante 242': {('male', 'group D',
67.46694214876032)), 'Estudiante 243': {('male', 'group D',
67.44718792866941)), 'Estudiante 244': {('male', 'group C',
67.43169398907104)), 'Estudiante 245': {('male', 'group B',
67.28979591836735)), 'Estudiante 246': {('male', 'group C',
67.3048780487805)), 'Estudiante 247': {('female', 'group C',
67.2132253711201)), 'Estudiante 248': {('male', 'group D',

```
67.21102150537635)), 'Estudiante 249': {('male', 'group C',
67.15796519410978)), 'Estudiante 250': {('female', 'group D',
67.20533333333333))}}
```

11. Crear un conjunto de todos los estudiantes que sus elementos estan formados por una tupla : gender, race/ethnicity y test preparation course donde teste preparation course sea completo.

```
with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunt = set()
    for student in students:
        if student[4]=='completed':
            conjunt.add(tuple([student[0],student[1],student[4]]))
    print(conjunt)

{('female', 'group E', 'completed'), ('female', 'group A',
'completed'), ('male', 'group A', 'completed'), ('male', 'group E',
'completed'), ('male', 'group D', 'completed'), ('female', 'group C',
'completed'), ('female', 'group D', 'completed'), ('male', 'group B',
'completed'), ('female', 'group B', 'completed'), ('male', 'group C',
'completed')}
```

12. Crear un conjunto de todos los estudiantes que sus elementos estan formados por una tupla : parental level of education, lunch y test preparation course, donde parental level of education no sea high school.

```
with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunt = set()
    for student in students:
        if student[2]!='high school':
            conjunt.add(tuple([student[2],student[3],student[4]]))
    print(conjunt)

{("associate's degree", 'free/reduced', 'completed'), ("master's
degree", 'standard', 'completed'), ('some college', 'free/reduced',
'none'), ("bachelor's degree", 'free/reduced', 'none'), ("bachelor's
degree", 'standard', 'none'), ('some high school', 'standard',
'completed'), ('some college', 'standard', 'none'), ("master's
degree", 'free/reduced', 'none'), ('some college', 'free/reduced',
'completed'), ('some high school', 'free/reduced', 'none'),
("associate's degree", 'free/reduced', 'none'), ("bachelor's degree",
'standard', 'completed'), ("associate's degree", 'standard', 'none'),
('some college', 'standard', 'completed'), ("master's degree",
'standard', 'none'), ("associate's degree", 'standard', 'completed'),
('some high school', 'standard', 'none'), ('some high school',
'free/reduced', 'completed')}
```

13. Crear un conjunto todos los estudiantes que sus elementos estan formados por una tupla: gender, race/ethnicity y el promedio donde el promedio de match score, reading score y writing score sea mayor o igual a 60.

```
with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunt = set()
    for student in students:
        list_aux = []
        for a in range(5,8):
            list_aux.append(int(student[a]))
        if mean(list_aux) >= 60:
            conjunt.add(tuple([student[0],student[1],mean(list_aux)]))
    print(conjunt)
```

```
{('female', 'group D', 72), ('female', 'group C', 77), ('female',
'group C', 65.33333333333333), ('male', 'group A', 65.66666666666667),
('female', 'group D', 81.33333333333333), ('female', 'group A',
82.33333333333333), ('female', 'group D', 90.33333333333333),
('female', 'group E', 88.66666666666667), ('male', 'group A', 65),
('male', 'group C', 60), ('female', 'group C', 72.66666666666667),
('female', 'group D', 79.66666666666667), ('female', 'group B',
63.666666666666664), ('male', 'group B', 71.66666666666667),
('female', 'group D', 83.33333333333333), ('female', 'group B', 84),
('male', 'group B', 62.333333333333336), ('male', 'group E', 78),
('male', 'group C', 62.333333333333336), ('male', 'group D', 91),
('male', 'group D', 66.66666666666667), ('female', 'group C', 72),
('male', 'group E', 66.33333333333333), ('male', 'group B', 62),
('male', 'group D', 75.66666666666667), ('female', 'group C', 81),
('male', 'group B', 71), ('female', 'group A', 61.333333333333336),
('male', 'group E', 62.333333333333336), ('female', 'group C',
65.66666666666667), ('female', 'group D', 72.66666666666667), ('male',
'group C', 71), ('female', 'group A', 82.66666666666667), ('male',
'group B', 62.666666666666664), ('female', 'group D',
76.33333333333333), ('female', 'group D', 85.33333333333333), ('male',
'group D', 91.33333333333333), ('male', 'group C', 73.66666666666667),
('male', 'group B', 71.33333333333333), ('male', 'group E', 89),
('male', 'group B', 80.33333333333333), ('female', 'group D', 90),
('male', 'group B', 73), ('male', 'group C', 64), ('male', 'group E',
80.33333333333333), ('female', 'group D', 92.66666666666667), ('male',
'group C', 66.66666666666667), ('female', 'group A', 72), ('male',
'group E', 73), ('female', 'group C', 88.66666666666667), ('female',
'group B', 72.66666666666667), ('male', 'group A', 69.33333333333333),
('male', 'group B', 64.33333333333333), ('male', 'group D', 86),
('male', 'group B', 73.33333333333333), ('female', 'group B',
63.333333333333336), ('male', 'group D', 70.66666666666667),
('female', 'group C', 76), ('male', 'group C', 73.33333333333333),
('female', 'group D', 83), ('male', 'group D', 61.333333333333336),
('female', 'group D', 76.66666666666667), ('female', 'group B', 63),
('female', 'group D', 85.66666666666667), ('female', 'group C',
```


60.333333333333336), ('male', 'group E', 66), ('male', 'group D', 70),
('male', 'group A', 76.66666666666667), ('female', 'group C', 60),
('male', 'group B', 75.33333333333333), ('female', 'group E', 60),
('male', 'group B', 77), ('female', 'group E', 78), ('male', 'group
E', 84.33333333333333), ('female', 'group C', 69.33333333333333),
('male', 'group C', 61.333333333333336), ('male', 'group D',
65.66666666666667), ('male', 'group D', 90), ('male', 'group C',
77.33333333333333), ('female', 'group C', 62.666666666666664),
('male', 'group C', 86.33333333333333), ('female', 'group B', 67),
('male', 'group E', 82.66666666666667), ('male', 'group B',
61.666666666666664), ('male', 'group E', 91.66666666666667), ('male',
'group E', 61), ('female', 'group D', 79.33333333333333), ('female',
'group C', 85.66666666666667), ('male', 'group B', 75.66666666666667),
('male', 'group D', 83), ('female', 'group D', 71), ('female', 'group
B', 60.333333333333336), ('male', 'group C', 75.66666666666667),
('male', 'group C', 70.33333333333333), ('female', 'group E',
89.33333333333333), ('male', 'group C', 93.66666666666667), ('female',
'group B', 85.33333333333333), ('female', 'group E', 73), ('female',
'group E', 98.33333333333333), ('female', 'group B', 60), ('female',
'group D', 68.33333333333333), ('male', 'group D', 74.33333333333333),
('female', 'group C', 69.66666666666667), ('female', 'group C',
64.33333333333333), ('male', 'group E', 88.33333333333333), ('female',
'group B', 60.666666666666664), ('female', 'group C',
78.66666666666667), ('male', 'group C', 63.666666666666664),
('female', 'group C', 82.33333333333333), ('female', 'group C',
96.66666666666667), ('female', 'group C', 66), ('male', 'group E',
63.666666666666664), ('male', 'group C', 77.66666666666667), ('male',
'group C', 81.33333333333333), ('female', 'group D', 91), ('male',
'group D', 67.33333333333333), ('female', 'group B', 62), ('male',
'group D', 76.33333333333333), ('male', 'group E', 90.33333333333333),
('male', 'group D', 69), ('female', 'group C', 89.66666666666667),
('female', 'group C', 84.33333333333333), ('female', 'group D', 66),
('male', 'group B', 74.33333333333333), ('female', 'group D', 75),
('female', 'group D', 93), ('female', 'group C', 80), ('male', 'group
D', 69.33333333333333), ('female', 'group A', 78.66666666666667),
('male', 'group A', 75), ('female', 'group C', 64.66666666666667),
('female', 'group B', 64), ('female', 'group B', 73), ('male', 'group
D', 78.33333333333333), ('male', 'group D', 92.66666666666667),
('male', 'group D', 87.33333333333333), ('female', 'group D',
84.33333333333333), ('male', 'group B', 67.33333333333333), ('female',
'group E', 73.66666666666667), ('male', 'group D',
62.666666666666664), ('male', 'group B', 76.33333333333333),
('female', 'group D', 77), ('female', 'group B', 73.33333333333333),
('female', 'group C', 61.666666666666664), ('male', 'group B', 81),
('male', 'group E', 85.33333333333333), ('female', 'group E', 100),
('male', 'group C', 69.33333333333333), ('female', 'group B',
66.33333333333333), ('female', 'group D', 79), ('female', 'group C',
75), ('male', 'group D', 64.33333333333333), ('male', 'group A', 79),
('male', 'group D', 96.66666666666667), ('male', 'group C', 74),

```
('female', 'group D', 84.66666666666667), ('male', 'group B',  
67.66666666666667)]}
```

14. Crear un conjunto todos los estudiantes que sus elementos estan formados por una tupla: gender, race/ethnicity y el promedio donde el promedio de match score, reading score y writing score sea igual a 60.

```
with open('./exams.csv') as csvfile:  
    students = csv.reader(csvfile, delimiter = ',')  
    columnas = next(students)  
    conjunt = set()  
    for student in students:  
        list_aux = []  
        for a in range(5,8):  
            list_aux.append(int(student[a]))  
        if mean(list_aux) == 60:  
            conjunt.add(tuple([student[0],student[1],mean(list_aux)]))  
    print(conjunt)
```

```
{('male', 'group C', 60), ('female', 'group B', 60), ('female', 'group  
E', 60), ('female', 'group C', 60)}
```

15. Crear un conjunto todos los estudiantes que sus elementos estan formados por una tupla: gender, race/ethnicity y el promedio de match score, reading score y writing score donde el gender sea female.

```
with open('./exams.csv') as csvfile:  
    students = csv.reader(csvfile, delimiter = ',')  
    columnas = next(students)  
    conjunt = set()  
    for student in students:  
        list_aux = []  
        for a in range(5,8):  
            list_aux.append(int(student[a]))  
        if student[0] == 'female':  
            conjunt.add(tuple([student[0],student[1],mean(list_aux)]))  
    print(conjunt)
```

```
{('female', 'group D', 72), ('female', 'group C', 56.666666666666664),  
('female', 'group C', 77), ('female', 'group D', 47.333333333333336),  
('female', 'group D', 56.333333333333336), ('female', 'group C',  
65.333333333333333), ('female', 'group D', 81.333333333333333),  
('female', 'group A', 82.333333333333333), ('female', 'group D',  
90.333333333333333), ('female', 'group C', 49.666666666666664),  
('female', 'group E', 88.666666666666667), ('female', 'group B', 45),  
('female', 'group C', 72.666666666666667), ('female', 'group D',  
79.666666666666667), ('female', 'group B', 63.666666666666664),  
('female', 'group D', 83.333333333333333), ('female', 'group B', 84),  
('female', 'group C', 72), ('female', 'group C', 81), ('female',  
'group D', 51.333333333333336), ('female', 'group C',  
65.666666666666667), ('female', 'group A', 61.333333333333336),  
('female', 'group D', 72.666666666666667), ('female', 'group A',
```

```

82.66666666666667), ('female', 'group C', 56.333333333333336),
('female', 'group D', 76.33333333333333), ('female', 'group D',
85.33333333333333), ('female', 'group C', 44.666666666666664),
('female', 'group D', 90), ('female', 'group C', 58.333333333333336),
('female', 'group D', 92.66666666666667), ('female', 'group A', 72),
('female', 'group C', 88.66666666666667), ('female', 'group B',
72.66666666666667), ('female', 'group B', 54.333333333333336),
('female', 'group B', 63.333333333333336), ('female', 'group C', 76),
('female', 'group D', 83), ('female', 'group D', 37), ('female',
'group D', 76.66666666666667), ('female', 'group B', 63), ('female',
'group D', 85.66666666666667), ('female', 'group C',
60.333333333333336), ('female', 'group D', 46.666666666666664),
('female', 'group C', 60), ('female', 'group E', 60), ('female',
'group E', 78), ('female', 'group C', 69.33333333333333), ('female',
'group C', 62.666666666666664), ('female', 'group B', 67), ('female',
'group C', 55.333333333333336), ('female', 'group C', 37), ('female',
'group C', 46), ('female', 'group C', 85.66666666666667), ('female',
'group D', 71), ('female', 'group B', 60.333333333333336), ('female',
'group C', 55.666666666666664), ('female', 'group B', 51), ('female',
'group E', 89.33333333333333), ('female', 'group B',
85.33333333333333), ('female', 'group E', 73), ('female', 'group E',
98.33333333333333), ('female', 'group B', 60), ('female', 'group D',
55.333333333333336), ('female', 'group D', 68.33333333333333),
('female', 'group C', 69.66666666666667), ('female', 'group C',
64.33333333333333), ('female', 'group C', 78.66666666666667),
('female', 'group B', 60.666666666666664), ('female', 'group C',
82.33333333333333), ('female', 'group C', 96.66666666666667),
('female', 'group C', 66), ('female', 'group D', 91), ('female',
'group B', 62), ('female', 'group A', 46), ('female', 'group E',
57.666666666666664), ('female', 'group B', 37.333333333333336),
('female', 'group C', 89.66666666666667), ('female', 'group C',
84.33333333333333), ('female', 'group D', 66), ('female', 'group D',
75), ('female', 'group B', 55), ('female', 'group D', 93), ('female',
'group C', 80), ('female', 'group A', 78.66666666666667), ('female',
'group B', 64), ('female', 'group C', 64.66666666666667), ('female',
'group D', 59.333333333333336), ('female', 'group B', 73), ('female',
'group B', 55.666666666666664), ('female', 'group C', 43), ('female',
'group D', 84.33333333333333), ('female', 'group D', 59), ('female',
'group E', 73.66666666666667), ('female', 'group B',
57.333333333333336), ('female', 'group D', 77), ('female', 'group B',
73.33333333333333), ('female', 'group C', 61.666666666666664),
('female', 'group E', 100), ('female', 'group B', 66.33333333333333),
('female', 'group D', 79), ('female', 'group C', 75), ('female',
'group D', 45.333333333333336), ('female', 'group B', 59), ('female',
'group D', 84.66666666666667), ('female', 'group C',
59.333333333333336), ('female', 'group D', 79.33333333333333)}

```

16. Mediante operación de conjuntos unir los conjuntos del ejercicio 11 y 12.

with open('./exams.csv') as csvfile:

```
students = csv.reader(csvfile, delimiter = ',')
```

```

columnas = next(students)
conjunto11 = set()
conjunto12 = set()
conjuntoFinal = set()
for student in students:
    if student[4]=='completed':
        conjunto11.add(tuple([student[0],student[1],student[4]]))
    if student[0] == 'female' and student[1]!='group A':
        conjunto12.add(tuple([student[0],student[1],student[4]]))
conjuntoFinal = conjunto11.union(conjunto12)
print(conjuntoFinal)

{('female', 'group E', 'completed'), ('female', 'group A',
'completed'), ('male', 'group A', 'completed'), ('female', 'group C',
'none'), ('male', 'group E', 'completed'), ('female', 'group B',
'none'), ('female', 'group D', 'none'), ('male', 'group D',
'completed'), ('female', 'group C', 'completed'), ('female', 'group
E', 'none'), ('female', 'group D', 'completed'), ('male', 'group B',
'completed'), ('female', 'group B', 'completed'), ('male', 'group C',
'completed')}}

```

17. Mediante operación de conjuntos obtener los estudiantes que se encuentran en el conjunto del ejercicio 13 pero no en el conjunto del ejercicio 14.

```

with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunto13 = set()
    conjunto14 = set()
    conjuntoFinal = set()
    for student in students:
        list_aux = []
        for a in range(5,8):
            list_aux.append(int(student[a]))
        if mean(list_aux) >= 60:

conjunto13.add(tuple([student[0],student[1],mean(list_aux)]))
        if mean(list_aux) == 60:

conjunto14.add(tuple([student[0],student[1],mean(list_aux)]))
    conjuntoFinal =
conjunto13.symmetric_difference(conjunto13.intersection(conjunto14))
    print(conjuntoFinal)

{('female', 'group D', 72), ('female', 'group C', 77), ('female',
'group C', 65.33333333333333), ('male', 'group A', 65.66666666666667),
('female', 'group D', 81.33333333333333), ('female', 'group A',
82.33333333333333), ('female', 'group D', 90.33333333333333),
('female', 'group E', 88.66666666666667), ('male', 'group A', 65),
('female', 'group C', 72.66666666666667), ('female', 'group D',
79.66666666666667), ('female', 'group B', 63.666666666666664),

```

('male', 'group B', 71.66666666666667), ('female', 'group D', 83.33333333333333), ('female', 'group B', 84), ('male', 'group B', 62.33333333333336), ('male', 'group E', 78), ('male', 'group C', 62.33333333333336), ('male', 'group D', 91), ('male', 'group D', 66.66666666666667), ('female', 'group C', 72), ('male', 'group E', 66.33333333333333), ('male', 'group B', 62), ('male', 'group D', 75.66666666666667), ('female', 'group C', 81), ('male', 'group B', 71), ('female', 'group A', 61.33333333333336), ('male', 'group E', 62.33333333333336), ('female', 'group C', 65.66666666666667), ('female', 'group D', 72.66666666666667), ('male', 'group C', 71), ('female', 'group A', 82.66666666666667), ('male', 'group B', 62.66666666666664), ('female', 'group D', 76.33333333333333), ('female', 'group D', 85.33333333333333), ('male', 'group D', 91.33333333333333), ('male', 'group C', 73.66666666666667), ('male', 'group B', 71.33333333333333), ('male', 'group E', 89), ('male', 'group B', 80.33333333333333), ('female', 'group D', 90), ('male', 'group B', 73), ('male', 'group C', 64), ('male', 'group E', 80.33333333333333), ('female', 'group D', 92.66666666666667), ('male', 'group C', 66.66666666666667), ('female', 'group A', 72), ('male', 'group E', 73), ('female', 'group C', 88.66666666666667), ('female', 'group B', 72.66666666666667), ('male', 'group A', 69.33333333333333), ('male', 'group B', 64.33333333333333), ('male', 'group D', 86), ('male', 'group B', 73.33333333333333), ('female', 'group B', 63.33333333333336), ('male', 'group D', 70.66666666666667), ('female', 'group C', 76), ('male', 'group C', 73.33333333333333), ('female', 'group D', 83), ('male', 'group D', 61.33333333333336), ('female', 'group D', 76.66666666666667), ('female', 'group B', 63), ('female', 'group D', 85.66666666666667), ('female', 'group C', 60.33333333333336), ('male', 'group E', 66), ('male', 'group D', 70), ('male', 'group A', 76.66666666666667), ('male', 'group B', 75.33333333333333), ('male', 'group B', 77), ('female', 'group E', 78), ('male', 'group E', 84.33333333333333), ('female', 'group C', 69.33333333333333), ('male', 'group C', 61.33333333333336), ('male', 'group D', 65.66666666666667), ('male', 'group D', 90), ('male', 'group C', 77.33333333333333), ('female', 'group C', 62.66666666666664), ('male', 'group C', 86.33333333333333), ('female', 'group B', 67), ('male', 'group E', 82.66666666666667), ('male', 'group B', 61.66666666666664), ('male', 'group E', 91.66666666666667), ('male', 'group E', 61), ('female', 'group C', 85.66666666666667), ('male', 'group B', 75.66666666666667), ('male', 'group D', 83), ('female', 'group D', 71), ('female', 'group B', 60.33333333333336), ('male', 'group C', 75.66666666666667), ('male', 'group C', 70.33333333333333), ('female', 'group E', 89.33333333333333), ('male', 'group C', 93.66666666666667), ('female', 'group B', 85.33333333333333), ('female', 'group E', 73), ('female', 'group E', 98.33333333333333), ('female', 'group D', 68.33333333333333), ('male', 'group D', 74.33333333333333), ('female', 'group C', 69.66666666666667), ('female', 'group C', 64.33333333333333), ('male', 'group E', 88.33333333333333), ('female', 'group B', 60.66666666666664), ('female', 'group C',

```

78.66666666666667), ('male', 'group C', 63.66666666666664),
('female', 'group C', 82.33333333333333), ('female', 'group C',
96.66666666666667), ('female', 'group C', 66), ('male', 'group E',
63.66666666666664), ('male', 'group C', 77.66666666666667), ('male',
'group C', 81.33333333333333), ('female', 'group D', 91), ('male',
'group D', 67.33333333333333), ('female', 'group B', 62), ('male',
'group D', 76.33333333333333), ('male', 'group E', 90.33333333333333),
('male', 'group D', 69), ('female', 'group C', 89.66666666666667),
('female', 'group C', 84.33333333333333), ('female', 'group D', 66),
('male', 'group B', 74.33333333333333), ('female', 'group D', 75),
('female', 'group D', 93), ('female', 'group C', 80), ('male', 'group
D', 69.33333333333333), ('female', 'group A', 78.66666666666667),
('male', 'group A', 75), ('female', 'group C', 64.66666666666667),
('female', 'group B', 64), ('female', 'group B', 73), ('male', 'group
D', 78.33333333333333), ('male', 'group D', 92.66666666666667),
('male', 'group D', 87.33333333333333), ('male', 'group B',
67.66666666666667), ('female', 'group D', 84.33333333333333), ('male',
'group B', 67.33333333333333), ('female', 'group E',
73.66666666666667), ('male', 'group D', 62.66666666666664), ('male',
'group B', 76.33333333333333), ('female', 'group D', 77), ('female',
'group B', 73.33333333333333), ('female', 'group C',
61.66666666666664), ('male', 'group B', 81), ('male', 'group E',
85.33333333333333), ('female', 'group E', 100), ('male', 'group C',
69.33333333333333), ('female', 'group B', 66.33333333333333),
('female', 'group D', 79), ('female', 'group C', 75), ('male', 'group
D', 64.33333333333333), ('male', 'group A', 79), ('male', 'group D',
96.66666666666667), ('male', 'group C', 74), ('female', 'group D',
84.66666666666667), ('female', 'group D', 79.33333333333333)}

```

18. Mediante operación de conjuntos obtener los estudiantes que se encuentran en el conjunto del ejercicio 13 pero no en el conjunto del ejercicio 15.

```

with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunto13 = set()
    conjunto15 = set()
    conjuntoFinal = set()
    for student in students:
        list_aux = []
        for a in range(5,8):
            list_aux.append(int(student[a]))
        if mean(list_aux) >= 60:

conjunto13.add(tuple([student[0],student[1],mean(list_aux)]))
        if student[0] == 'female':

conjunto15.add(tuple([student[0],student[1],mean(list_aux)]))
    conjuntoFinal =
conjunto13.symmetric_difference(conjunto13.intersection(conjunto15))
    print(conjuntoFinal)

```

```
{('male', 'group C', 61.333333333333336), ('male', 'group D',
65.666666666666667), ('male', 'group D', 90), ('male', 'group C',
77.333333333333333), ('male', 'group C', 86.333333333333333), ('male',
'group E', 82.666666666666667), ('male', 'group B',
61.666666666666664), ('male', 'group A', 65.666666666666667), ('male',
'group E', 91.666666666666667), ('male', 'group E', 61), ('male',
'group B', 75.666666666666667), ('male', 'group D', 83), ('male',
'group C', 75.666666666666667), ('male', 'group C', 70.333333333333333),
('male', 'group A', 65), ('male', 'group C', 93.666666666666667),
('male', 'group E', 84.333333333333333), ('male', 'group C', 60),
('male', 'group D', 74.333333333333333), ('male', 'group C',
63.666666666666664), ('male', 'group E', 88.333333333333333), ('male',
'group B', 71.666666666666667), ('male', 'group B',
62.333333333333336), ('male', 'group E', 78), ('male', 'group E',
63.666666666666664), ('male', 'group C', 77.666666666666667), ('male',
'group C', 62.333333333333336), ('male', 'group D', 91), ('male',
'group D', 66.666666666666667), ('male', 'group C', 81.333333333333333),
('male', 'group E', 66.333333333333333), ('male', 'group B', 62),
('male', 'group D', 75.666666666666667), ('male', 'group D',
67.333333333333333), ('male', 'group B', 71), ('male', 'group E',
62.333333333333336), ('male', 'group D', 76.333333333333333), ('male',
'group C', 71), ('male', 'group B', 62.666666666666664), ('male',
'group E', 90.333333333333333), ('male', 'group D', 69), ('male',
'group D', 91.333333333333333), ('male', 'group C', 73.666666666666667),
('male', 'group B', 74.333333333333333), ('male', 'group B',
71.333333333333333), ('male', 'group E', 89), ('male', 'group B',
80.333333333333333), ('male', 'group B', 73), ('male', 'group C', 64),
('male', 'group D', 78.333333333333333), ('male', 'group D',
69.333333333333333), ('male', 'group A', 75), ('male', 'group D',
92.666666666666667), ('male', 'group D', 87.333333333333333), ('male',
'group E', 80.333333333333333), ('male', 'group C', 66.666666666666667),
('male', 'group B', 67.333333333333333), ('male', 'group A',
69.333333333333333), ('male', 'group E', 73), ('male', 'group B',
64.333333333333333), ('male', 'group D', 62.666666666666664), ('male',
'group B', 76.333333333333333), ('male', 'group D', 86), ('male',
'group B', 73.333333333333333), ('male', 'group D', 70.666666666666667),
('male', 'group C', 73.333333333333333), ('male', 'group D',
61.333333333333336), ('male', 'group E', 85.333333333333333), ('male',
'group B', 81), ('male', 'group E', 66), ('male', 'group D', 70),
('male', 'group A', 76.666666666666667), ('male', 'group C',
69.333333333333333), ('male', 'group B', 75.333333333333333), ('male',
'group D', 64.333333333333333), ('male', 'group B', 77), ('male',
'group A', 79), ('male', 'group D', 96.666666666666667), ('male',
'group C', 74), ('male', 'group B', 67.666666666666667)}
```

19. Mediante operación de conjuntos obtener los estudiantes que se encuentran en el conjunto del ejercicio 15 pero no en el conjunto del ejercicio 13.

```
with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
```

```

conjunto13 = set()
conjunto15 = set()
conjuntoFinal = set()
for student in students:
    list_aux = []
    for a in range(5,8):
        list_aux.append(int(student[a]))
    if mean(list_aux) >= 60:

conjunto13.add(tuple([student[0],student[1],mean(list_aux)]))
    if student[0] == 'female':

conjunto15.add(tuple([student[0],student[1],mean(list_aux)]))
    conjuntoFinal =
conjunto15.symmetric_difference(conjunto15.intersection(conjunto13))
    print(conjuntoFinal)

{('female', 'group C', 56.666666666666664), ('female', 'group D',
47.333333333333336), ('female', 'group D', 56.333333333333336),
('female', 'group C', 55.333333333333336), ('female', 'group C', 37),
('female', 'group C', 46), ('female', 'group C', 49.666666666666664),
('female', 'group B', 45), ('female', 'group C', 55.666666666666664),
('female', 'group B', 51), ('female', 'group D', 55.333333333333336),
('female', 'group D', 51.333333333333336), ('female', 'group A', 46),
('female', 'group E', 57.666666666666664), ('female', 'group C',
56.333333333333336), ('female', 'group B', 37.333333333333336),
('female', 'group C', 44.666666666666664), ('female', 'group B', 55),
('female', 'group D', 59.333333333333336), ('female', 'group C',
58.333333333333336), ('female', 'group B', 55.666666666666664),
('female', 'group C', 43), ('female', 'group D', 59), ('female',
'group B', 57.333333333333336), ('female', 'group B',
54.333333333333336), ('female', 'group D', 37), ('female', 'group D',
46.666666666666664), ('female', 'group D', 45.333333333333336),
('female', 'group B', 59), ('female', 'group C', 59.333333333333336)}

```

20. Mediante operacion de conjuntos obtener los estudiantes que se encuentran en el conjunto del ejercicio 12 pero no en el conjunto del ejercicio 11.

```

with open('./exams.csv') as csvfile:
    students = csv.reader(csvfile, delimiter = ',')
    columnas = next(students)
    conjunto12 = set()
    conjunto11 = set()
    conjuntoFinal = set()

    for student in students:
        if student[4]=='completed':
            conjunto11.add(tuple([student[0],student[1],student[4]]))
        if student[0] == 'female' and student[1]!='group A':
            conjunto12.add(tuple([student[0],student[1],student[4]]))

```



```
conjuntoFinal = conjunto11.difference(conjunto12)

print(conjuntoFinal)

{('female', 'group A', 'completed'), ('male', 'group A', 'completed'),
('male', 'group E', 'completed'), ('male', 'group D', 'completed'),
('male', 'group B', 'completed'), ('male', 'group C', 'completed')}
```