```
import csv
"""
opens csv file, reads the contents using the csv. reader() function,
iterates over each row, prints the contents of each row
"""
csvfile = open('data-text.csv', 'r', newline='')
reader = csv.reader(csvfile)

for row in reader:
    print(row)
```

```
['Indicator', 'PUBLISH STATES', 'Year', 'WHO region', 'World Bank income group', 'Country', 'Sex', 'Display Value', 'Numeric', 'Low',
['Life expectancy at birth (years)', 'Published', '1990', 'Europe', 'High-income', 'Andorra', 'Both sexes', '77', '77.00000', '', '',
['Life expectancy at birth (years)', 'Published', '2000', 'Europe', 'High-income', 'Andorra', 'Both sexes', '80', '80.00000', '', '',
['Life expectancy at age 60 (years)', 'Published', '2012', 'Europe', 'High-income', 'Andorra', 'Female', '28', '28.00000', '', '', ''
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Andorra', 'Both sexes', '23', '23.00000', '', ''
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['Life expectancy at age 60 (years)', 'Published', '2012', 'Americas', 'High-income', 'Antigua and Barbuda', 'Both sexes', '22', '22.
['Life expectancy at birth (years)', 'Published', '2012', 'Western Pacific', 'High-income', 'Australia', 'Male', '81', '81.00000', ''
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['Life expectancy at birth (years)', 'Published', '2012', 'Western Pacific', 'High-income', 'Australia', 'Both sexes', '83', '83.0000
['Life expectancy at birth (years)', 'Published', '2012', 'Europe', 'High-income', 'Austria', 'Female', '83', '83.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2012', 'Europe', 'High-income', 'Austria', 'Female', '25', '25.00000', '', '', ''
['Life expectancy at birth (years)', 'Published', '2012', 'Europe', 'High-income', 'Belgium', 'Female', '83', '83.00000', '', '', '']
['Life expectancy at birth (years)', 'Published', '2000', 'Eastern Mediterranean', 'High-income', 'Bahrain', 'Male', '73', '73.00000'
['Life expectancy at birth (years)', 'Published', '1990', 'Eastern Mediterranean', 'High-income', 'Bahrain', 'Female', '74', '74.0000
['Life expectancy at age 60 (years)', 'Published', '1990', 'Eastern Mediterranean', 'High-income', 'Bahrain', 'Male', '17', '17.00000
['Life expectancy at birth (years)', 'Published', '2012', 'Americas', 'High-income', 'Bahamas', 'Male', '72', '72.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2000', 'Americas', 'High-income', 'Bahamas', 'Both sexes', '21', '21.00000', '',
['Life expectancy at birth (years)', 'Published', '1990', 'Americas', 'High-income', 'Barbados', 'Male', '71', '71.00000', '', '', ''
['Life expectancy at age 60 (years)', 'Published', '2012', 'Americas', 'High-income', 'Barbados', 'Female', '25', '25.00000', '', '',
['Life expectancy at age 60 (years)', 'Published', '2012', 'Americas', 'High-income', 'Barbados', 'Both sexes', '23', '23.00000', '',
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['Life expectancy at age 60 (years)', 'Published', '2000', 'Western Pacific', 'High-income', 'Cook Islands', 'Both sexes', '18', '18.
['Life expectancy at birth (years)', 'Published', '2000', 'Europe', 'High-income', 'Cyprus', 'Female', '79', '79.00000', '', '', '']
['Life expectancy at birth (years)', 'Published', '2000', 'Europe', 'High-income', 'Cyprus', 'Both sexes', '77', '77.00000', '', '',
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Cyprus', 'Female', '22', '22.00000', '', '', '']
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['Life expectancy at birth (years)', 'Published', '1990', 'Europe', 'High-income', 'Germany', 'Female', '79', '79.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '1990', 'Europe', 'High-income', 'Germany', 'Male', '18', '18.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Germany', 'Male', '20', '20.00000', '', '', '']
['Life expectancy at birth (years)', 'Published', '2012', 'Europe', 'High-income', 'Denmark', 'Both sexes', '80', '80.00000', '', '',
['Life expectancy at age 60 (years)', 'Published', '1990', 'Europe', 'High-income', 'Denmark', 'Male', '18', '18.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Denmark', 'Male', '19', '19.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Denmark', 'Both sexes', '21', '21.00000', '', ''
['Life expectancy at age 60 (years)', 'Published', '2012', 'Europe', 'High-income', 'Denmark', 'Both sexes', '23', '23.00000', '', ''
['Life expectancy at birth (years)', 'Published', '2012', 'Europe', 'High-income', 'Spain', 'Both sexes', '82', '82.00000', '', '', '
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Spain', 'Female', '25', '25.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '1990', 'Europe', 'High-income', 'Spain', 'Both sexes', '22', '22.00000', '', '',
['Life expectancy at birth (years)', 'Published', '1990', 'Europe', 'High-income', 'Estonia', 'Female', '75', '75.00000', '', '', '']
['Life expectancy at birth (years)', 'Published', '2012', 'Europe', 'High-income', 'Estonia', 'Female', '81', '81.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2012', 'Europe', 'High-income', 'Estonia', 'Male', '18', '18.00000', '', '', '']
['Life expectancy at age 60 (years)', 'Published', '2000', 'Europe', 'High-income', 'Estonia', 'Female', '21', '21.00000', '', '', ''
['Life expectancy at age 60 (years)', 'Published', '2012', 'Europe', 'High-income', 'Estonia', 'Female', '24', '24.00000', '', '', ''
```

```
# loops (iterates) over the list, prints the name of each dog one at a time.

# create a list named 'dogs' with 5 elements (the name of each dog)
dogs = ['Joker', 'Simon', 'Ellie', 'Lishka', 'Fido']

#loops through each element in the list, prints each of the names
for dog in dogs:
    print(dog)
```

```
Joker
Simon
Ellie
Lishka
Fido
```

```
"""
opens a csv file, reads the contents using csv.DictReader(),
extracts and prints the headers, iterates through each row,
extracts specific information from each row,
prints the Name, Age and Breed

"""

# open the csv file
with open('data-text.csv', 'r', newline='') as csvfile:
    # Create a csv reader
    reader = csv. DictReader(csvfile)

    # Extract and print headers
    headers = reader.fieldnames
    print("Headers:", headers)

    #Iterate through each row in the csv
    for row in reader:
        #Extract information from each row
        name = row['Indicator']
        age = row['Year']
        breed = row['WHO region']

        #Print the extracted information
        print(f"Name: {name}, Age: {age}, Breed: {breed}")
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Americas
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2000, Breed: Americas
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Americas
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2000, Breed: Western Pacific
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Western Pacific
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Western Pacific
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Eastern Mediterranean
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2000, Breed: Africa
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2000, Breed: Africa
     Name: Healthy life expectancy (HALE) at birth (years), Age: 2012, Breed: Africa
```

```
# same as the previous, on it prints the Country and Display Value
with open('data-text.csv', 'r', newline='') as csvfile:

  # create a csv reader
  reader = csv. DictReader(csvfile)

  # print headers
  headers = reader. fieldnames
  print("Headers:", headers)

  # loop/iterate through rows
  for row in reader:
      name = row['Country']
      display_value = row['Display Value']
      print(f"Country: {name}, Display Value: {display_value}")
```

```
Country: Zambia, Display Value: 50
Country: Zimbabwe, Display Value: 51
```

```
import json

json_data = open ('data-text.json') .read()

data = json.loads(json_data)

for item in data:
    print(item)
```

```
{'Indicator': 'Healthy life expectancy (HALE) at birth (years)', 'PUBLISH STATES': 'Published', 'Year': 2000, 'WHO region': 'Eastern
{'Indicator': 'Healthy life expectancy (HALE) at birth (years)', 'PUBLISH STATES': 'Published', 'Year': 2000, 'WHO region': 'Eastern
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{'Indicator': 'Healthy life expectancy (HALE) at birth (years)', 'PUBLISH STATES': 'Published', 'Year': 2012, 'WHO region': 'Africa',
```

```
"""
parses an XML file, extracts specific data from it,
organizes the data into a list of dictionaries

"""

from xml.etree import ElementTree as ET

# parse the XML file
tree = ET.parse('data-text.xml')
```

```
# get the root element

root = tree.getroot()

# find the 'Data' element within the root
data = root.find ('Data')

#create an empty list to store the data
all_data = []

#loop through each 'observation' element within the 'Data' element
for observation in data:
    # create a dictionary
    record = {}
    # loop through each item with the observation element
    for item in observation:
        # determine the key based on the attribute of the item
        lookup_key = list(item.attrib.keys()) [0]
        # if the record is Numeric, set the record key to Numeric
        if lookup_key == 'Numeric' :
            rec_key = 'NUMERIC'
            rec_value = item.attrib['Numeric']
        else:
            # if the not Numeric, set the record key to the attribute value and get the code attribute
              rec_key = item.attrib[lookup_key]
              rec_value = item.attrib['Code']
       # add the key/value pair to the dictionary
        record[rec_key] = rec_value
     # append the record dictionary to the list of all the data records
    all_data.append(record)
# print the list of data
print(all_data)
```

```
[{'PUBLISHSTATE': 'PUBLISHED', 'YEAR': '1990', 'SEX': 'BTSX', 'GHO': 'WHOSIS_000001', 'REGION': 'EUR', 'COUNTRY': 'AND', 'WORLDBANKINCOM
```