In [1]:
```
das as pd
ad_csv(r"C:\Users\bhava\OneDrive\Pictures\Desktop\GPTC\5th SEM\EXCEL\environmer
```

Out[1]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	sour
0	2009	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
1	2010	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
2	2011	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
...	...	...	...	...	...	...	...	
469	2016	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accou
470	2017	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accou
471	2018	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accou
472	2019	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accou
473	2020	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accou

474 rows × 10 columns

In [2]:
```
data.head()
```

Out[2]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	source	data
0	2009	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmental Accounts	
1	2010	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmental Accounts	
2	2011	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmental Accounts	
3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmental Accounts	

In [3]:
```
data.tail()
```

Out[3]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	source	da
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmental Accounts	
469	2016	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
470	2017	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
471	2018	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
472	2019	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
473	2020	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	

In [5]:
```
data.isnull()
```

Out[5]:

In [3]:
```
data.tail()
```

Out[3]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	source	da
469	2016	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
470	2017	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
471	2018	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
472	2019	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	
473	2020	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmental Accounts	

In [5]:
```
data.isnull()
```

Out[5]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	source	data_value	flag
0	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False
...	...	...	...	...	...	...	...	...	...	...
469	False	False	False	False	False	False	False	False	False	False
470	False	False	False	False	False	False	False	False	False	False
471	False	False	False	False	False	False	False	False	False	False
472	False	False	False	False	False	False	False	False	False	False
473	False	False	False	False	False	False	False	False	False	False

474 rows × 10 columns

In [6]:
```
data.isnull().sum().sum()
```

Out[6]:
```
0
```

In [7]:
```
data.isnull().sum()
```

Out[7]:
```
year          0
sector        0
class         0
cfn_tle1      0
cfn_tle2      0
units         0
magnitude     0
source        0
data_value    0
flag          0
dtype: int64
```

In [9]:
```
data.fillna(1)
```

Out[9]:

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	sour
0	2009	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
1	2010	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
2	2011	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
...	...	...	...	...	...	...	...	
469	2016	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
470	2017	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
471	2018	Local	Wastewater	Environmental protection	Gross fixed capital	Dollars	Millions	Environmen

In [9]:
```
data.fillna(1)
```

Out[9]:
```
class          0
cfn_tle1       0
cfn_tle2       0
units          0
magnitude      0
year           0
sector         0
source         0
data_value     0
flag           0
dtype: int64
```

	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	sour
0	2009	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
1	2010	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
2	2011	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
...	...	...	...	...	...	...	...	
469	2016	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
470	2017	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
471	2018	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
472	2019	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui
473	2020	Local government	Wastewater	Environmental protection expenditure	Gross fixed capital formation	Dollars	Millions	Environmen Accoui

474 rows × 10 columns

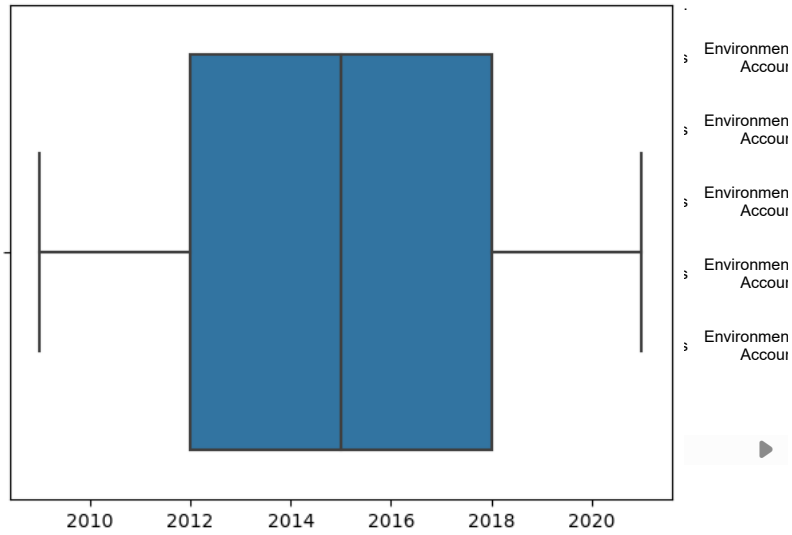
In [11]:
```
data.dropna(0)
```

```
C:\Users\bhava\AppData\Local\Temp\ipykernel_22948\385664179.py:1: FutureWarni
ng: In a future version of pandas all arguments of DataFrame.dropna will be k
eyword-only.
  data.dropna(0)
```

Out[11]:

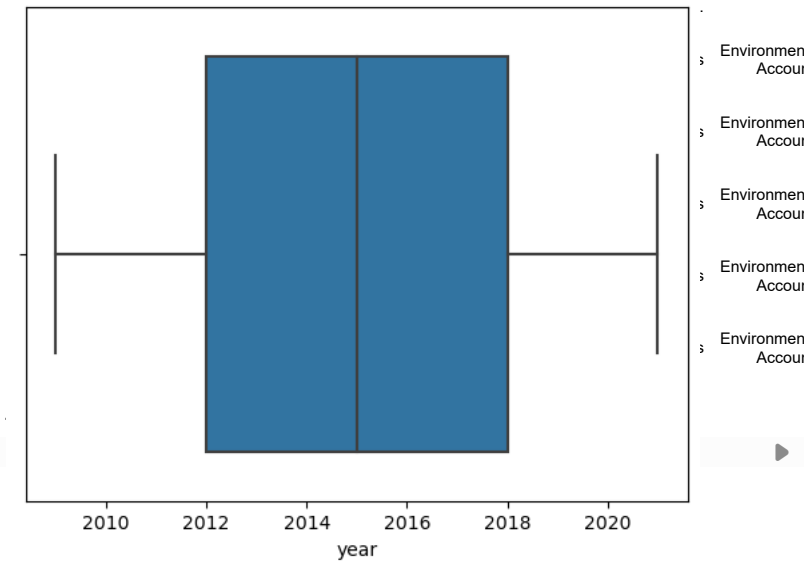
	year	sector	class	cfn_tle1	cfn_tle2	units	magnitude	sour
0	2009	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
1	2010	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
2	2011	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accoui

In [20]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
sns.boxplot(x=data["year"])
plt.show()
```



In [20]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
sns.boxplot(x=data["year"])
plt.show()
```

3	2012	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou
4	2013	Central government	Total	Environmental protection expenditure	Final consumption expenditure	Proportion	Actual	Environmen Accou



In [26]:
```
import seaborn as sns
import matplotlib.pyplot as plt
import pandas as pd
data = pd.read_csv(r"C:Users/bhava/OneDrive/Pictures/Desktop/GPTC/5th SEM/EXCE
column1 = df["year"]
column2 = df["class"]
plt.figure(figsize=(8,9))
sns.scatterplot(x=column1,y=column2)
plt.title("scatter plot for Baivariate")
plt.show()
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_22948\4062364621.py in <module>
      2 import matplotlib.pyplot as plt
      3 import pandas as pd
----> 4 data = pd.read_csv(r"C:Users/bhava/OneDrive/Pictures/Desktop/GPTC/5th
SEM/EXCEL/environmental-protection-expenditure-account-2009--2021.csv")
      5 column1 = df["year"]
      6 column2 = df["class"]

~\anaconda3\lib\site-packages\pandas\util\_decorators.py in wrapper(*args, **
kwargs)
    309                     stacklevel=stacklevel,
    310                 )
--> 311             return func(*args, **kwargs)
    312
    313         return wrapper
```

In [26]:
```
import seaborn as sns
import matplotlib.pyplot as plt
import pandas as pd
data = pd.read_csv(r"C:Users/bhava/OneDrive/Pictures/Desktop/GPTC/5th SEM/EXCE
column1 = df["year"]
column2 = df["class"]
plt.figure(figsize=(8,9))
sns.scatterplot(x=column1,y=column2)
plt.title("scatter plot for Baivariate")
plt.show()
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_22948\4062364621.py in <module>
      2 import matplotlib.pyplot as plt
      3 import pandas as pd
----> 4 data = pd.read_csv(r"C:Users/bhava/OneDrive/Pictures/Desktop/GPTC/5th
SEM/EXCEL/environmental-protection-expenditure-account-2009--2021.csv")
      5 column1 = df["year"]
      6 column2 = df["class"]

~\anaconda3\lib\site-packages\pandas\util\_decorators.py in wrapper(*args, **
kwargs)
    309                     stacklevel=stacklevel,
    310                 )
--> 311             return func(*args, **kwargs)
    312
    313         return wrapper

~\anaconda3\lib\site-packages\pandas\io\parsers\readers.py in read_csv(filepa
th_or_buffer, sep, delimiter, header, names, index_col, usecols, squeeze, pre
fix, mangle_dupe_cols, dtype, engine, converters, true_values, false_values,
skipinitialspace, skiprows, skipfooter, nrows, na_values, keep_default_na, na
_filter, verbose, skip_blank_lines, parse_dates, infer_datetime_format, keep_
date_col, date_parser, dayfirst, cache_dates, iterator, chunksize, compressio
n, thousands, decimal, lineterminator, quotechar, quoting, doublequote, escap
echar, comment, encoding, encoding_errors, dialect, error_bad_lines, warn_bad
_lines, on_bad_lines, delim_whitespace, low_memory, memory_map, float_precisi
on, storage_options)
    676     kwds.update(kwds_defaults)
    677
--> 678     return _read(filepath_or_buffer, kwds)
    679
    680

~\anaconda3\lib\site-packages\pandas\io\parsers\readers.py in _read(filepath_
or_buffer, kwds)
    573
    574     # Create the parser.
--> 575     parser = TextFileReader(filepath_or_buffer, **kwds)
    576
    577     if chunksize or iterator:

~\anaconda3\lib\site-packages\pandas\io\parsers\readers.py in __init__(self,
f, engine, **kwds)
    930
    931         self.handles: IOHandles | None = None
--> 932         self._engine = self._make_engine(f, self.engine)
    933
    934     def close(self):

~\anaconda3\lib\site-packages\pandas\io\parsers\readers.py in _make_engine(se
lf, f, engine)
   1214             # "Union[str, PathLike[str], ReadCsvBuffer[bytes], ReadCs
vBuffer[str]]"
   1215             # , "str", "bool", "Any", "Any", "Any", "Any", "Any"
-> 1216             self.handles = get_handle(  # type: ignore[call-overload]
   1217                 f,
   1218                 mode,

~\anaconda3\lib\site-packages\pandas\io\common.py in get_handle(path_or_buf,
mode, encoding, compression, memory_map, is_text, errors, storage_options)
    784         if ioargs.encoding and "b" not in ioargs.mode:
    785             # Encoding
--> 786             handle = open(
    787                 handle,
    788                 ioargs.mode,

FileNotFoundError: [Errno 2] No such file or directory: 'C:Users/bhava/OneDri
ve/Pictures/Desktop/GPTC/5th SEM/EXCEL/environmental-protection-expenditure-a
ccount-2009--2021.csv'
```

In [ ]:

```
    934     def close(self):

~\anaconda3\lib\site-packages\pandas\io\parsers\readers.py in _make_engine(self, f, engine)
   1214             # "Union[str, PathLike[str], ReadCsvBuffer[bytes], ReadCsvBuffer[str]]"
   1215             # , "str", "bool", "Any", "Any", "Any", "Any", "Any"
-> 1216             self.handles = get_handle(  # type: ignore[call-overload]
   1217                 f,
   1218                 mode,

~\anaconda3\lib\site-packages\pandas\io\common.py in get_handle(path_or_buf, mode, encoding, compression, memory_map, is_text, errors, storage_options)
    784         if ioargs.encoding and "b" not in ioargs.mode:
    785             # Encoding
--> 786             handle = open(
    787                 handle,
    788                 ioargs.mode,

FileNotFoundError: [Errno 2] No such file or directory: 'C:Users/bhava/OneDrive/Pictures/Desktop/GPTC/5th SEM/EXCEL/environmental-protection-expenditure-account-2009--2021.csv'
```

In [ ]: