In [ ]:
```python
# installing the mysql connector
!pip install mysql-connector-python
```

In [2]:
```python
#Importing the liberaries
import mysql.connector
import pandas as pd
```

In [3]:
```python
#Creating the connection function
con=mysql.connector.connect(
    host='localhost',
    port=3306,
    user='root',
    password='Rjizhere@123',
    database='studmarks')
```

In [4]:
```python
#Assign the data to the DataFrame
df=pd.read_sql_query('select * from studentmarks',con)
df
```

Out[4]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	Name	Gende	None	0	0	0	0	0	0	0
1	John	M	None	55	45	56	87	21	52	89
2	Suresh	M	None	75	96	78	64	90	61	58
3	Ramesh	M	None	25	54	89	76	95	87	56
4	Jessica	F	None	78	96	86	63	54	89	75
5	Jennifer	F	None	58	96	78	46	96	77	83
6	Annu	F	None	45	87	52	89	55	89	87
7	pooja	F	None	55	64	61	58	75	58	64
8	Ritesh	M	None	54	76	87	56	25	56	76
9	Farha	F	None	55	63	89	75	78	75	63
10	Mukesh	M	None	96	46	77	83	58	83	46

In [5]:
```python
df.head(5)
```

Out[5]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History	C
0	Name	Gende	None	0	0	0	0	0	0	0	
1	John	M	None	55	45	56	87	21	52	89	
2	Suresh	M	None	75	96	78	64	90	61	58	
3	Ramesh	M	None	25	54	89	76	95	87	56	
4	Jessica	F	None	78	96	86	63	54	89	75	

In [6]:
```python
import seaborn as sns
```

In [7]:
```python
df.shape
```
Out[7]: (11, 11)

In [8]:
```python
df.dtypes
```
Out[8]:
```
Name         object
Gender       object
DOB          object
Maths         int64
Physics       int64
Chemistry     int64
English       int64
Biology       int64
Economics     int64
History       int64
Civics        int64
dtype: object
```

In [9]:
```python
df.info
```
Out[9]:
```
<bound method DataFrame.info of          Name Gender   DOB  Maths  Physics  Ch
emistry  English  Biology  \
0        Name  Gende  None      0        0        0        0        0
1        John      M  None     55       45       56       87       21
2      Suresh      M  None     75       96       78       64       90
3      Ramesh      M  None     25       54       89       76       95
4     Jessica      F  None     78       96       86       63       54
5    Jennifer      F  None     58       96       78       46       96
6        Annu      F  None     45       87       52       89       55
7       pooja      F  None     55       64       61       58       75
8      Ritesh      M  None     54       76       87       56       25
9       Farha      F  None     55       63       89       75       78
10     Mukesh      M  None     96       46       77       83       58

    Economics  History  Civics
0           0        0       0
1          52       89      65
2          61       58       2
3          87       56      74
4          89       75      45
5          77       83      53
6          89       87      52
7          58       64      61
8          56       76      87
9          75       63      89
10         83       46      77   >
```

In [10]:
```python
#Checking the null values
df.isnull()
```

Out[10]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History	Civ
0	False	False	True	False	False	False	False	False	False	False	F
1	False	False	True	False	False	False	False	False	False	False	F
2	False	False	True	False	False	False	False	False	False	False	F
3	False	False	True	False	False	False	False	False	False	False	F
4	False	False	True	False	False	False	False	False	False	False	F
5	False	False	True	False	False	False	False	False	False	False	F
6	False	False	True	False	False	False	False	False	False	False	F
7	False	False	True	False	False	False	False	False	False	False	F
8	False	False	True	False	False	False	False	False	False	False	F
9	False	False	True	False	False	False	False	False	False	False	F
10	False	False	True	False	False	False	False	False	False	False	F

In [11]:
```python
#Checking the total number of null values in each column
df.isnull().sum()
```
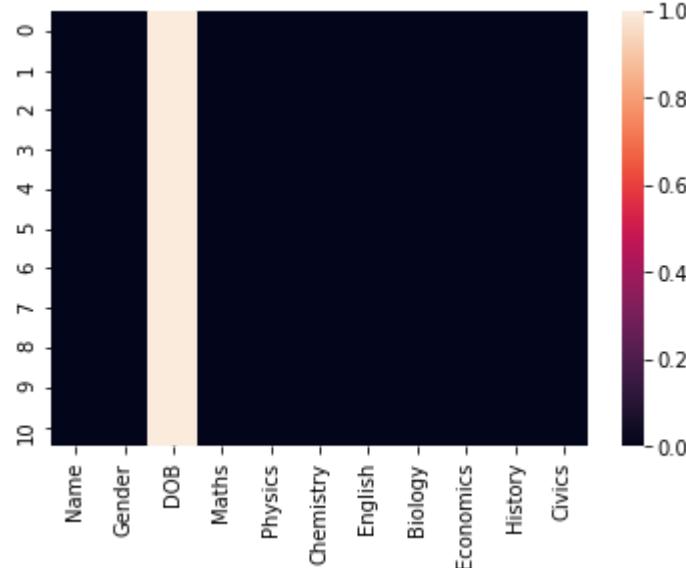
Out[11]:
```
Name         0
Gender       0
DOB          11
Maths        0
Physics      0
Chemistry    0
English      0
Biology      0
Economics    0
History      0
Civics       0
dtype: int64
```

In [12]: `#Visualising the null values using HeatMap`
`sns.heatmap(df.isnull())`

Out[12]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdcba46a0>`

In [13]: `df.columns`

Out[13]:
```
Index(['Name', 'Gender', 'DOB', 'Maths', 'Physics', 'Chemistry', 'English',
       'Biology', 'Economics', 'History', 'Civics'],
      dtype='object')
```

In [14]: `df.describe()`

Out[14]:

	Maths	Physics	Chemistry	English	Biology	Economics	History	Civics
count	11.000000	11.000000	11.000000	11.000000	11.000000	11.000000	11.000000	11.000000
mean	54.181818	65.727273	68.454545	63.363636	58.818182	66.090909	63.363636	55.000000
std	25.763611	29.315835	26.303474	25.092918	32.195708	25.943996	25.092918	30.179463
min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	49.500000	50.000000	58.500000	57.000000	39.500000	57.000000	57.000000	48.500000
50%	55.000000	64.000000	78.000000	64.000000	58.000000	75.000000	64.000000	61.000000
75%	66.500000	91.500000	86.500000	79.500000	84.000000	85.000000	79.500000	75.500000
max	96.000000	96.000000	89.000000	89.000000	96.000000	89.000000	89.000000	89.000000

In [16]: `#Removing column DOB as it has null values only.`
`df1=df.dropna(axis=1, inplace=`**`True`**`)`
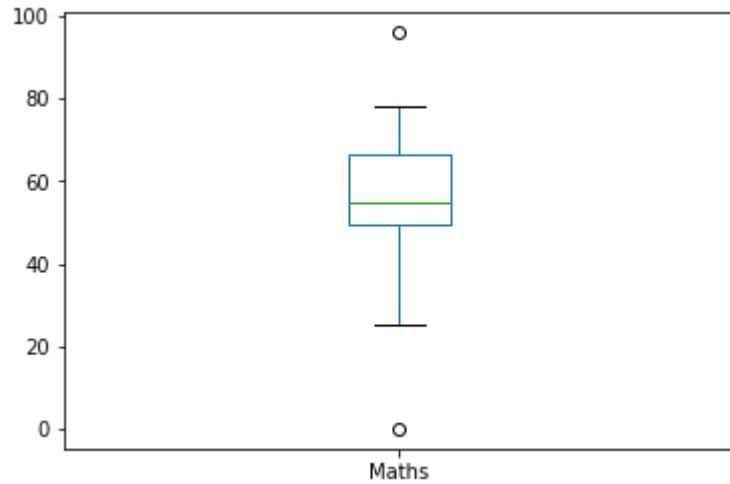
In [17]: df

Out[17]:

	Name	Gender	Maths	Physics	Chemistry	English	Biology	Economics	History	Civics
0	Name	Gende	0	0	0	0	0	0	0	0
1	John	M	55	45	56	87	21	52	89	65
2	Suresh	M	75	96	78	64	90	61	58	2
3	Ramesh	M	25	54	89	76	95	87	56	74
4	Jessica	F	78	96	86	63	54	89	75	45
5	Jennifer	F	58	96	78	46	96	77	83	53
6	Annu	F	45	87	52	89	55	89	87	52
7	pooja	F	55	64	61	58	75	58	64	61
8	Ritesh	M	54	76	87	56	25	56	76	87
9	Farha	F	55	63	89	75	78	75	63	89
10	Mukesh	M	96	46	77	83	58	83	46	77
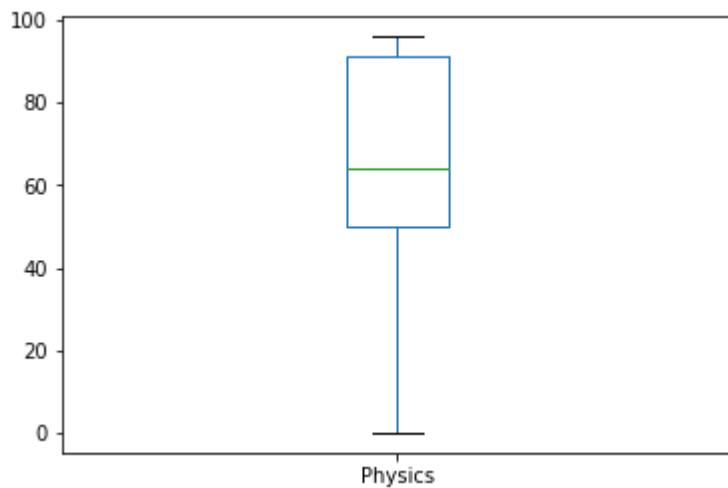
In [18]:
```python
#Now looking for Univariate Analysis
df['Maths'].plot.box()
```

Out[18]: <matplotlib.axes._subplots.AxesSubplot at 0x29bdcd4d438>
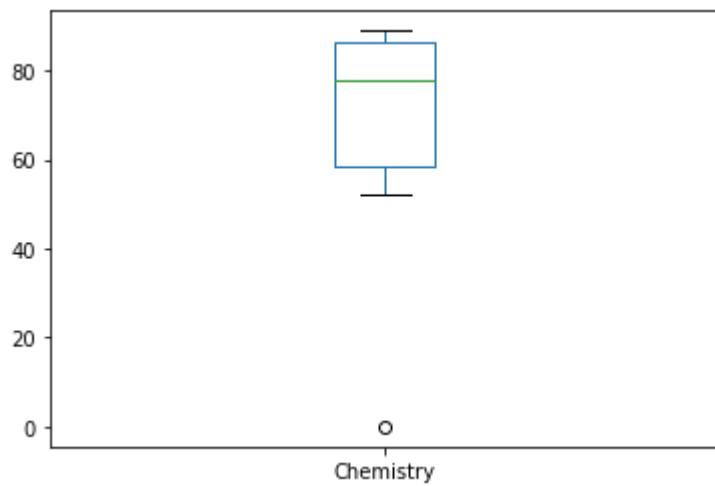
In [19]: `df['Physics'].plot.box()`

Out[19]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdcd4d0f0>`
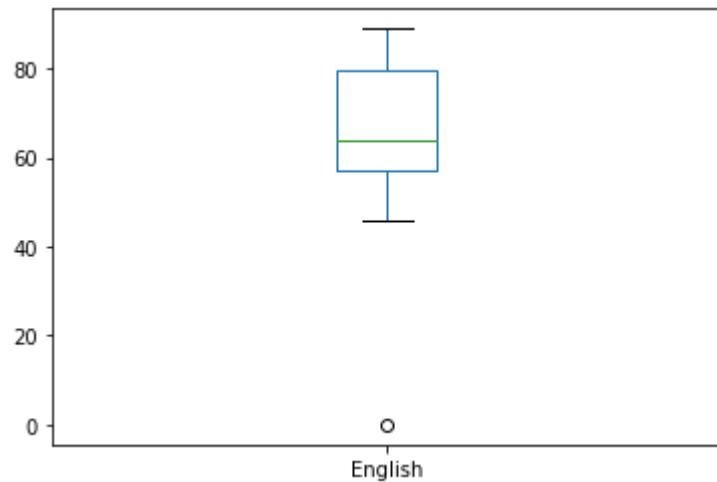
In [20]: `df['Chemistry'].plot.box()`

Out[20]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdce1e9e8>`
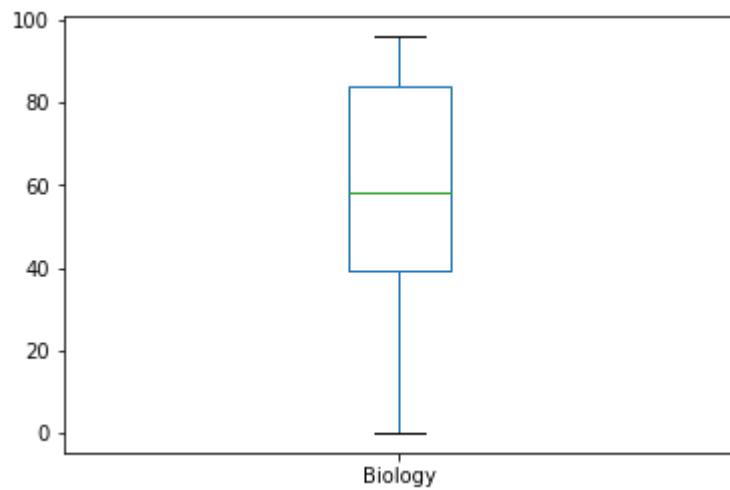
In [21]: `df['English'].plot.box()`

Out[21]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdce83518>`
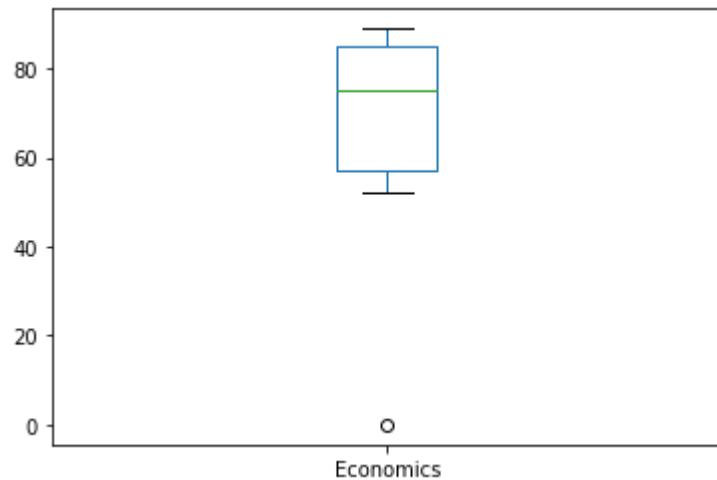
In [22]: `df['Biology'].plot.box()`

Out[22]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdcee1198>`
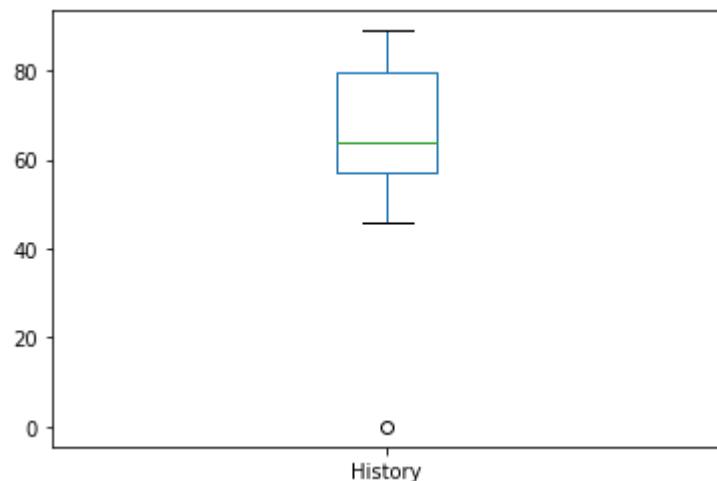
In [23]: `df['Economics'].plot.box()`

Out[23]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdcf0d438>`
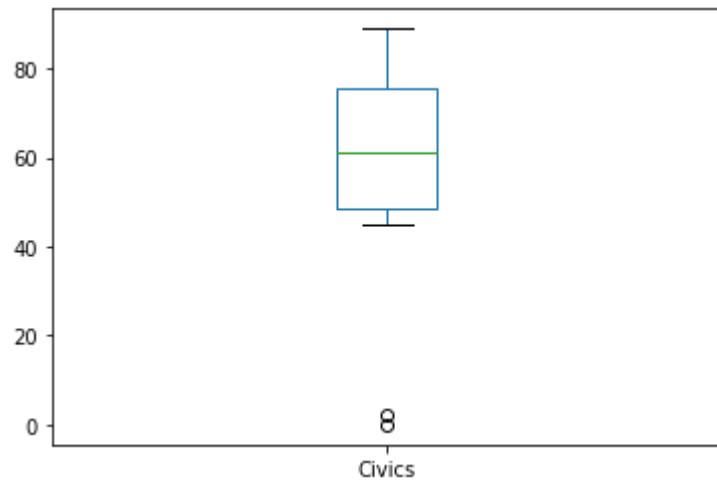
In [24]: `df['History'].plot.box()`

Out[24]: `<matplotlib.axes._subplots.AxesSubplot at 0x29bdcf92c18>`

In [25]: ```df['Civics'].plot.box()```

Out[25]: ```<matplotlib.axes._subplots.AxesSubplot at 0x29bdcfece80>```

In [27]: #Visualizing data all at a time
sns.pairplot(df)

Out[27]: <seaborn.axisgrid.PairGrid at 0x29bdd2f46d8>