

```
In [21]: 1 test_find_by_primary_key()
```

```
*****  
Test name = Primary Key Test1  
Primary key = ['dff_chi']  
Result table:  
null
```

```
*****  
Test name = Primary Key Test2  
Primary key = ['abbotji01']  
Result table:  
{  
  "playerID": "abbotji01",  
  "birthYear": "1967",  
  "birthMonth": "9",  
  "birthDay": "19",  
  "birthCountry": "USA",  
  "birthState": "MI",  
  "birthCity": "Flint",  
  "deathYear": "",  
  "deathMonth": "",  
  "deathDay": "",  
  "deathCountry": "",  
  "deathState": "",  
  "deathCity": "",  
  "nameFirst": "Jim",  
  "nameLast": "Abbott",  
  "nameGiven": "James Anthony",  
  "weight": "200",  
  "height": "75",  
  "bats": "L",  
  "throws": "L",  
  "debut": "4/8/1989",  
  "finalGame": "7/21/1999",  
  "retroID": "abboj001",  
  "bbrefID": "abbotji01"  
}
```

In [22]:

1	test_templates()
---	------------------

```
*****
```

```
Test name = Test2
Template = {'birthMonth': '9', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Table name = People
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/People.csv
Table keys = ['playerID']
Result table:
```

```
[
  {
    "birthYear": "1968",
    "birthMonth": "9",
    "nameFirst": "Bernie",
    "nameLast": "Williams"
  },
  {
    "birthYear": "1931",
    "birthMonth": "9",
    "nameFirst": "Don",
    "nameLast": "Williams"
  },
  {
    "birthYear": "1935",
    "birthMonth": "9",
    "nameFirst": "Don",
    "nameLast": "Williams"
  },
  {
    "birthYear": "1993",
    "birthMonth": "9",
    "nameFirst": "Nick",
    "nameLast": "Williams"
  },
  {
    "birthYear": "1975",
    "birthMonth": "9",
    "nameFirst": "Randy",
    "nameLast": "Williams"
  },
  {
    "birthYear": "1936",
    "birthMonth": "9",
    "nameFirst": "Stan",
    "nameLast": "Williams"
  }
]
```

```
*****
```

```
Test name = Test3
Template = {'nameFirst': 'Ted', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
```

```

Table name = People
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/People.csv
Table keys = ['playerID']
Result table:
[
  {
    "birthYear": "1918",
    "birthMonth": "8",
    "nameFirst": "Ted",
    "nameLast": "Williams"
  }
]

```

```

*****

```

```

Test name = Test4
Template = {'nameFirst': 'Ted', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Exception = The primary keys are invalid

```

```

*****

```

```

Test name = Test5
Template = {'playerID': 'willite01'}
Fields = ['playerID', 'yearID', 'teamID', 'AB', 'H', 'HR']
Table name = Batting
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/Batting.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Result table:
[
  {
    "playerID": "willite01",
    "yearID": "1939",
    "teamID": "BOS",
    "AB": "565",
    "H": "185",
    "HR": "31"
  },
  {
    "playerID": "willite01",
    "yearID": "1940",
    "teamID": "BOS",
    "AB": "561",
    "H": "193",
    "HR": "23"
  },
  {
    "playerID": "willite01",
    "yearID": "1941",
    "teamID": "BOS",
    "AB": "456",
    "H": "185",
    "HR": "37"
  },
  {
    "playerID": "willite01",
    "yearID": "1942",

```

```
"teamID": "BOS",
"AB": "522",
"H": "186",
"HR": "36"
},
{
  "playerID": "willite01",
  "yearID": "1946",
  "teamID": "BOS",
  "AB": "514",
  "H": "176",
  "HR": "38"
},
{
  "playerID": "willite01",
  "yearID": "1947",
  "teamID": "BOS",
  "AB": "528",
  "H": "181",
  "HR": "32"
},
{
  "playerID": "willite01",
  "yearID": "1948",
  "teamID": "BOS",
  "AB": "509",
  "H": "188",
  "HR": "25"
},
{
  "playerID": "willite01",
  "yearID": "1949",
  "teamID": "BOS",
  "AB": "566",
  "H": "194",
  "HR": "43"
},
{
  "playerID": "willite01",
  "yearID": "1950",
  "teamID": "BOS",
  "AB": "334",
  "H": "106",
  "HR": "28"
},
{
  "playerID": "willite01",
  "yearID": "1951",
  "teamID": "BOS",
  "AB": "531",
  "H": "169",
  "HR": "30"
},
{
  "playerID": "willite01",
  "yearID": "1952",
  "teamID": "BOS",
```

```
"AB": "10",
"H": "4",
"HR": "1"
},
{
  "playerID": "willite01",
  "yearID": "1953",
  "teamID": "BOS",
  "AB": "91",
  "H": "37",
  "HR": "13"
},
{
  "playerID": "willite01",
  "yearID": "1954",
  "teamID": "BOS",
  "AB": "386",
  "H": "133",
  "HR": "29"
},
{
  "playerID": "willite01",
  "yearID": "1955",
  "teamID": "BOS",
  "AB": "320",
  "H": "114",
  "HR": "28"
},
{
  "playerID": "willite01",
  "yearID": "1956",
  "teamID": "BOS",
  "AB": "400",
  "H": "138",
  "HR": "24"
},
{
  "playerID": "willite01",
  "yearID": "1957",
  "teamID": "BOS",
  "AB": "420",
  "H": "163",
  "HR": "38"
},
{
  "playerID": "willite01",
  "yearID": "1958",
  "teamID": "BOS",
  "AB": "411",
  "H": "135",
  "HR": "26"
},
{
  "playerID": "willite01",
  "yearID": "1959",
  "teamID": "BOS",
  "AB": "272",
```

```

    "H": "69",
    "HR": "10"
  },
  {
    "playerID": "willite01",
    "yearID": "1960",
    "teamID": "BOS",
    "AB": "310",
    "H": "98",
    "HR": "29"
  }
]

```

```

Test name = Test6
Template = {'playerID': 'willite01', 'iq': 100}
Fields = ['playerID', 'yearID', 'teamID', 'AB', 'H', 'HR']
Table name = Batting
Table file = D:\Courses\Introduction to Database\Projects\HW1\data\Batting.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Exception = Keys in templated doesn't match the database format

```

```

Test name = Test7
Template = {'playerID': 'willite01', 'yearID': '1961'}
Fields = ['playerID', 'yearID', 'teamID', 'AB', 'H', 'HR']
Table name = Batting
Table file = D:\Courses\Introduction to Database\Projects\HW1\data\Batting.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Result table:
[]

```

```

Test name = Test7
Template = {'playerID': 'willite01', 'yearID': '1960'}
Fields = ['playerID', 'yearID', 'teamID', 'AB', 'H', 'HR', 'Age']
Table name = Batting
Table file = D:\Courses\Introduction to Database\Projects\HW1\data\Batting.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Exception = The fields don't match the database column types

```

In [23]:

1	test_inserts()
---	----------------

```
Test name = Insert Test 1
Row to insert = {'playerID': 'dff1', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}
Table name = People
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/PeopleSmall.csv
Table keys = ['playerID']
Result table:
```

```
Test name = Find after insert 1
Template = {'nameLast': 'Ferguson'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Table name = People
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/PeopleSmall.csv
Table keys = ['playerID']
Result table:
```

```
[
  {
    "birthYear": "",
    "birthMonth": "",
    "nameFirst": "Donald",
    "nameLast": "Ferguson"
  }
]
```

```
Test name = Insert Test 2
Row to insert = {'playerID': 'dff1', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}
Table name = People
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/PeopleSmall.csv
Table keys = ['playerID']
Exception = Duplicated Primary key found, Not insert!
OK. Did not insert duplicate key.
```

```
Test name = Insert Test 3
Row to insert = {'playerID': 'dff1', 'teamID': 'BOS', 'yearID': '2018', 'stint': '1',
'AB': '100', 'H': '100'}
Table name = Batting
Table file = D:\Courses\Introduction to Database\Projects\HW1\data/BattingSmall.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Result table:
```

```
Test name = Find after insert 3
Template = {'playerID': 'dff1'}
Fields = None
Table name = Batting
```

```

Table file = D:\Courses\Introduction to Database\Projects\HW1\data/BattingSmall.csv
Table keys = ['playerID', 'yearID', 'teamID', 'stint']
Result table:
[
  {
    "playerID": "dff1",
    "yearID": "2018",
    "stint": "1",
    "teamID": "BOS",
    "lgID": "",
    "G": "",
    "AB": "100",
    "R": "",
    "H": "100",
    "2B": "",
    "3B": "",
    "HR": "",
    "RBI": "",
    "SB": "",
    "CS": "",
    "BB": "",
    "SO": "",
    "IBB": "",
    "HBP": "",
    "SH": "",
    "SF": "",
    "GIDP": ""
  }
]

```

In [24]:

1	test_deletes()
---	----------------

Test name = Delete Test 1

Template to delete = {'playerID': 'dff1', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}

Test name = Delete Test 1

Template to delete = {'playerID': 'dff2', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}

OK. Did not delete the data which in not in the CSV FILE.

In [10]:

1	import pymysql
2	import json