

```
In [2]: 1 test_templates()
```

```
*****
Test name = Test2
Template = {'birthMonth': '9', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Result table:
[
  {
    "nameLast": "Williams",
    "nameFirst": "Bernie",
    "birthMonth": "9",
    "birthYear": "1968"
  },
  {
    "nameLast": "Williams",
    "nameFirst": "Don",
    "birthMonth": "9",
    "birthYear": "1931"
  },
  {
    "nameLast": "Williams",
    "nameFirst": "Don",
    "birthMonth": "9",
    "birthYear": "1935"
  },
  {
    "nameLast": "Williams",
    "nameFirst": "Nick",
    "birthMonth": "9",
    "birthYear": "1993"
  },
  {
    "nameLast": "Williams",
    "nameFirst": "Randy",
    "birthMonth": "9",
    "birthYear": "1975"
  },
  {
    "nameLast": "Williams",
    "nameFirst": "Stan",
    "birthMonth": "9",
    "birthYear": "1936"
  }
]

*****
Test name = Test3
Template = {'nameFirst': 'Ted', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Result table:
[
  {
    "nameLast": "Williams",
    "nameFirst": "Ted",
    "birthMonth": "8",
    "birthYear": "1918"
  }
]
```

```
Test name = Test4
Template = {'nameFirst': 'Ted', 'nameLast': 'Williams'}
Fields = ['nameLast', 'nameFirst', 'birthMonth', 'birthYear']
Exception = No such key_column in columns
```

```
Test name = Test5
Template = {'playerID': 'willite01'}
Fields = ['playerID', 'yearID', 'teamID', 'AB', 'H', 'HR']
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"
    }
  ]

```

In [3]: 1 test_key()

```
*****
Test name = Primary_key Test 1
String = ['willite01']
[{'playerID': 'willite01', 'birthYear': '1918', 'birthMonth': '8', 'birthDay': '30', 'birthCountry': 'USA', 'birthState': 'CA', 'birthCity': 'San Diego', 'deathYear': '2002', 'deathMonth': '7', 'deathDay': '5', 'deathCountry': 'USA', 'deathState': 'FL', 'deathCity': 'Inverness', 'nameFirst': 'Ted', 'nameLast': 'Williams', 'nameGiven': 'Theodore Samuel', 'weight': '205', 'height': '75', 'bats': 'L', 'throws': 'R', 'debut': '1939-04-20', 'finalGame': '1960-09-28', 'retroID': 'willt103', 'bbrefID': 'willite01'}]
Result table:
[
  {
    "playerID": "willite01",
    "birthYear": "1918",
    "birthMonth": "8",
    "birthDay": "30",
    "birthCountry": "USA",
    "birthState": "CA",
    "birthCity": "San Diego",
    "deathYear": "2002",
    "deathMonth": "7",
    "deathDay": "5",
    "deathCountry": "USA",
    "deathState": "FL",
    "deathCity": "Inverness",
    "nameFirst": "Ted",
    "nameLast": "Williams",
    "nameGiven": "Theodore Samuel",
    "weight": "205",
    "height": "75",
    "bats": "L",
    "throws": "R",
    "debut": "1939-04-20",
    "finalGame": "1960-09-28",
    "retroID": "willt103",
    "bbrefID": "willite01"
  }
]

*****
Test name = Primary_key Test 2
String = ['alvarcl01']
[{'nameLast': 'Alvarez', 'nameFirst': 'Clemente', 'birthMonth': '5', 'birthYear': '1968'}]
Result table:
[
  {
    "nameLast": "Alvarez",
    "nameFirst": "Clemente",
    "birthMonth": "5",
    "birthYear": "1968"
  }
]

*****
Test name = Primary_key Test 3
String = ['aardsda01', '2015', 'ATL', '1']
[{'playerID': 'aardsda01', 'yearID': '2015', 'teamID': 'ATL', 'AB': '1', 'H': '0', 'HR': '0'}]
Result table:
[
  {
    "playerID": "aardsda01",
    "yearID": "2015",
    "teamID": "ATL",
    "AB": "1",
    "H": "0",
    "HR": "0"
  }
]
```

```
In [7]: 1 test_inserts()
```

```
*****
Test name = Insert Test 1
Row to insert = {'playerID': 'dffl', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}
[{'playerID': 'dffl', 'birthYear': None, 'birthMonth': None, 'birthDay': None, 'birthCountry': None, 'birthState': None, 'birthCity': None, 'deathYear': None, 'deathMonth': None, 'deathDay': None, 'deathCountry': None, 'deathState': None, 'deathCity': None, 'nameFirst': 'Donald', 'nameLast': 'Ferguson', 'nameGiven': None, 'weight': None, 'height': None, 'bats': None, 'throws': None, 'debut': None, 'finalGame': None, 'retroID': None, 'bbrefID': None}]
Exception = This row exists

*****
Test name = Find after insert 1
String = ['dffl']
[{'nameLast': 'Ferguson', 'nameFirst': 'Donald', 'birthMonth': None, 'birthYear': None}]
Result table:
[
  {
    "nameLast": "Ferguson",
    "nameFirst": "Donald",
    "birthMonth": null,
    "birthYear": null
  }
]

*****
Test name = Insert Test 2
Row to insert = {'playerID': 'dffl', 'nameLast': 'Ferguson', 'nameFirst': 'Donald'}
[{'playerID': 'dffl', 'birthYear': None, 'birthMonth': None, 'birthDay': None, 'birthCountry': None, 'birthState': None, 'birthCity': None, 'deathYear': None, 'deathMonth': None, 'deathDay': None, 'deathCountry': None, 'deathState': None, 'deathCity': None, 'nameFirst': 'Donald', 'nameLast': 'Ferguson', 'nameGiven': None, 'weight': None, 'height': None, 'bats': None, 'throws': None, 'debut': None, 'finalGame': None, 'retroID': None, 'bbrefID': None}]
Exception = This row exists
OK. Did not insert duplicate key.
```

```
In [2]: 1 test_deletes()
```

```
*****
Test name = Delete Test 1
Template = {'playerID': 'aardsda01'}
-----
DELETE FROM PeopleSmall WHERE playerID = 'aardsda01';

*****
Test name = Find after delete 1
String = ['aardsda01']
()
Result table:
[]

*****
Test name = Delete Test 1
Template = {'birthMonth': '13'}
-----
DELETE FROM PeopleSmall WHERE birthMonth = '13';
OK, do not delete here
```