Ex No 6

Import a JSON file from the command line. Apply the following actions with the data present in the JSON file where, projection, aggregation, remove, count, limit, skip and sort

AIM:

To import a JSON file from the command line and apply the following actions with the data present in the JSON file where, projection, aggregation, remove, count, limit, skip and sort using jq tool.

PROCEDURE:

- Create a json file ‘employees.json’ and provide data in it.
- Open the command prompt.
- Navigate to the folder where employees.json is stored.
- Load and view the JSON data with jq.
- Use the jq commands for projection, aggregation, removal, counting, limiting, and sorting operations.

employees.json:

```
[
  {
    "id": 1,
    "name": "Alice Johnson",
    "department": "Engineering",
    "age": 29,
    "salary": 70000
  },
  {
    "id": 2,
    "name": "Bob Smith",
    "department": "Marketing",
    "age": 35,
```

```
    "salary": 55000
  },
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "age": 25,
    "salary": 60000
  },
  {
    "id": 4,
    "name": "Dana Lee",
    "department": "Human Resources",
    "age": 40,
    "salary": 65000
  },
  {
    "id": 5,
    "name": "Eve Martinez",
    "department": "Finance",
    "age": 45,
    "salary": 75000
  }
]
```


OUTPUT:

Running jq queries:

I. Projection:

```
rohitm@Ubuntu:~$ python3 process_data.py
Raw JSON Data: [
{"name": "John Doe", "age": 30, "department": "HR", "salary": 50000},
{"name": "Jane Smith", "age": 25, "department": "IT", "salary": 60000},
{"name": "Alice Johnson", "age": 35, "department": "Finance", "salary": 70000},
{"name": "Bob Brown", "age": 28, "department": "Marketing", "salary": 55000},
{"name": "Charlie Black", "age": 45, "department": "IT", "salary": 80000}
]
```

II. Aggregation:

```
Aggregation: Calculate total salary
Total Salary: 315000
```

III. Count:

```
Count: Number of employees earning more than 50000
Number of High Earners (>50000): 4
```

IV. Remove:

```
Filtered DataFrame (IT department removed):
            name  age department  salary
0       John Doe   30         HR   50000
2  Alice Johnson   35    Finance   70000
3      Bob Brown   28  Marketing   55000
```

V. Limit:

```
Limit: Top 5 highest salary
              name  age department  salary
4  Charlie Black   45         IT   80000
2  Alice Johnson   35    Finance   70000
1     Jane Smith   25         IT   60000
3      Bob Brown   28  Marketing   55000
0       John Doe   30         HR   50000
```

VI. Skip:

```
Skipped DataFrame (First 2 rows skipped):
              name  age department  salary
2  Alice Johnson   35    Finance   70000
3      Bob Brown   28  Marketing   55000
4  Charlie Black   45         IT   80000
```

VII. Sort:

```
Sorted DataFrame by Name:
              name  age department  salary
2  Alice Johnson   35    Finance   70000
3      Bob Brown   28  Marketing   55000
4  Charlie Black   45         IT   80000
1     Jane Smith   25         IT   60000
0       John Doe   30         HR   50000
```

RESULT:

Thus to import a JSON file from the command line and apply the following actions with the data present in the JSON file where, projection, aggregation, remove, count, limit, skip and sort using jq tool is completed successfully.