

EXP 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:

Installation of jq packages:

Running jq queries:

I. Projection:

```
jq ".[] | { name: .name, salary: .salary }" Desktop/employees.json
```

II. Aggregation:

```
jq "[.[] | .salary] | add" Desktop/employees.json
```

III. Remove:

```
jq "del(.[] | .age)" Desktop/employees.json
```

IV. Count:

```
jq ". | length" Desktop/employees.json
```

V. Limit:

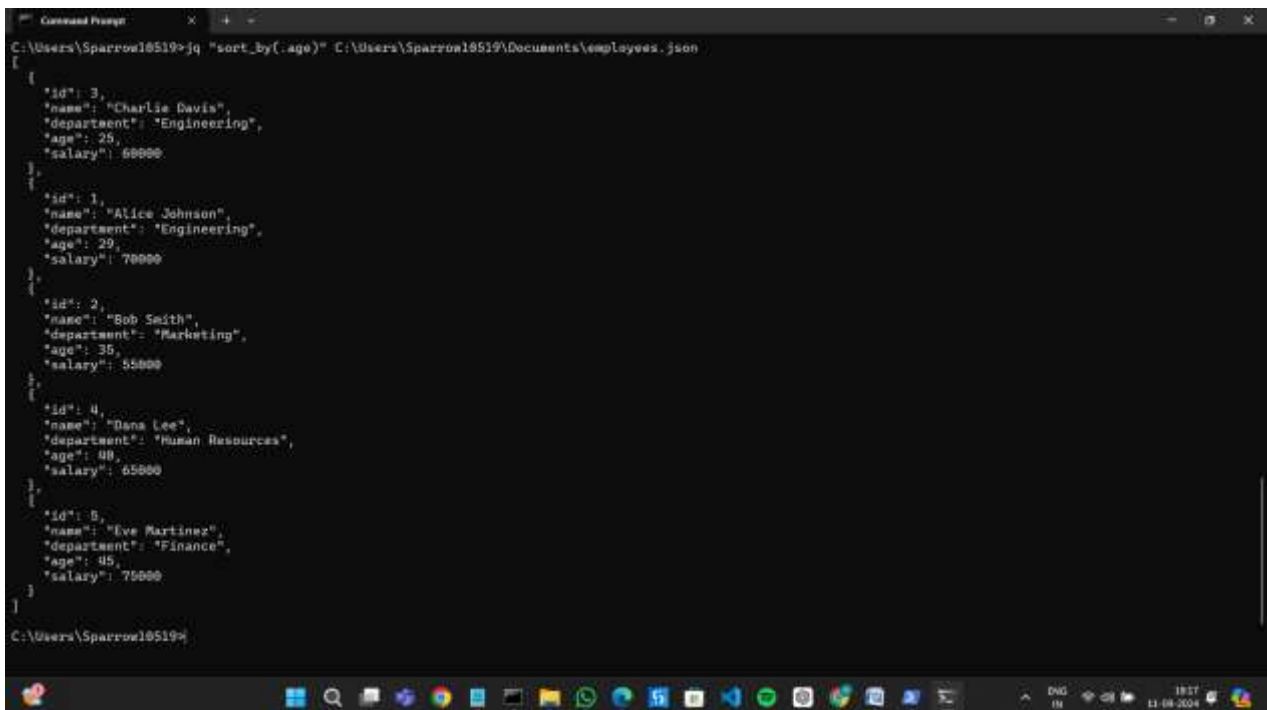
```
jq ".[0:3]" Desktop/employees.json
```

VI. Skip:

```
jq ".[2:]" Desktop/employees.json
```

VII. Sort:

```
jq "sort_by(.age)" Desktop/employees.json
```

OUTPUT SCREENSHOTS:

```
Command Prompt
C:\Users\Sparrow10519>jq "sort_by(.age)" C:\Users\Sparrow10519\Documents\employees.json
[
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "age": 25,
    "salary": 60000
  },
  {
    "id": 1,
    "name": "Alice Johnson",
    "department": "Engineering",
    "age": 29,
    "salary": 70000
  },
  {
    "id": 2,
    "name": "Bob Smith",
    "department": "Marketing",
    "age": 35,
    "salary": 55000
  },
  {
    "id": 4,
    "name": "Dana Lee",
    "department": "Human Resources",
    "age": 40,
    "salary": 65000
  },
  {
    "id": 5,
    "name": "Eve Martinez",
    "department": "Finance",
    "age": 45,
    "salary": 75000
  }
]
C:\Users\Sparrow10519>
```

```
C:\Users\Sparrow18519>jq ".[2]" C:\Users\Sparrow18519\Documents\employees.json
[
  {
    "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
  }
]

C:\Users\Sparrow18519>jq "sort_by(.age)" C:\Users\Sparrow18519\Documents\employees.json
[
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "age": 25,
    "salary": 60000
  },
  {
    "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
  }
]

C:\Users\Sparrow18519>jq ".[0:3]" C:\Users\Sparrow18519\Documents\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
  }
]

C:\Users\Sparrow18519>jq ".[2:]" C:\Users\Sparrow18519\Documents\employees.json
[
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "age": 25,
    "salary": 60000
  },
  {
    "id": 4,
    "name": "Dana Lee",
    "department": "Human Resources",
    "age": 40,
    "salary": 65000
  }
]
```

```

C:\Users\Sparrow18519>jq "del(.[] | .age)" C:\Users\Sparrow18519\Documents\employees.json
{
  {
    "id": 1,
    "name": "Alice Johnson",
    "department": "Engineering",
    "salary": 70000
  },
  {
    "id": 2,
    "name": "Bob Smith",
    "department": "Marketing",
    "salary": 55000
  },
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "salary": 60000
  },
  {
    "id": 4,
    "name": "Dana Lee",
    "department": "Human Resources",
    "salary": 65000
  },
  {
    "id": 5,
    "name": "Eve Martinez",
    "department": "Finance",
    "salary": 75000
  }
}

C:\Users\Sparrow18519>jq ". | length" C:\Users\Sparrow18519\Documents\employees.json
5

C:\Users\Sparrow18519>jq ".[0:3]" C:\Users\Sparrow18519\Documents\employees.json
{
  {
    "id": 1,
    "name": "Alice Johnson",
    "department": "Engineering",
    "salary": 70000
  },
  {
    "id": 2,
    "name": "Bob Smith",
    "department": "Marketing",
    "salary": 55000
  },
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "salary": 60000
  }
}

C:\Users\Sparrow18519>jq ".[] | {name: .name, salary: .salary}" C:\Users\Sparrow18519\Documents\employees.json
{
  "name": "Alice Johnson",
  "salary": 70000
},
{
  "name": "Bob Smith",
  "salary": 55000
},
{
  "name": "Charlie Davis",
  "salary": 60000
},
{
  "name": "Dana Lee",
  "salary": 65000
},
{
  "name": "Eve Martinez",
  "salary": 75000
}

C:\Users\Sparrow18519>jq "[.[] | .salary] | add" C:\Users\Sparrow18519\Documents\employees.json
325000

C:\Users\Sparrow18519>jq "del(.[] | .age)" C:\Users\Sparrow18519\Documents\employees.json
{
  {
    "id": 1,
    "name": "Alice Johnson",
    "department": "Engineering",
    "salary": 70000
  },
  {
    "id": 2,
    "name": "Bob Smith",
    "department": "Marketing",
    "salary": 55000
  },
  {
    "id": 3,
    "name": "Charlie Davis",
    "department": "Engineering",
    "salary": 60000
  },
  {
    "id": 4,
    "name": "Dana Lee",
    "department": "Human Resources",
    "salary": 65000
  },
  {
    "id": 5,
    "name": "Eve Martinez",
    "department": "Finance",
    "salary": 75000
  }
}

```

```

Administrator: Windows PowerShell
Ensuring Chocolatey commands are on the path.
Ensuring chocolatey.npkg is in the lib folder
PS C:\WINDOWS\system32> choco
Chocolatey v1.0
Please run 'choco -?' or 'choco command -?' for help menu.
PS C:\WINDOWS\system32> choco install jq
Chocolatey v1.0
Installing the following packages:
jq
By installing, you accept licenses for the packages.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading jq 1.7.1... 100%

jq v1.7.1 [Approved]
jq package files install completed. Performing other installation steps.
The package jq wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or '-quiet'.
Since source module is allowed to autoinstall, we are proceeding.
Do you want to run the script? (Y/es/[A]ll - yes to all/[N]o/[P]ret): Y

Downloading jq 64 bit
from 'https://github.com/jqlang/jq/releases/download/jq-1.7.1/jq-windows-amd64.exe'
PS C:\WINDOWS\system32> jq
jq - command-line JSON processor [version 1.6]

Usage: C:\Users\Spurao\Downloads\library\jq-ws64\bin\jq.exe [options] [jq filter] [file...]
       C:\Users\Spurao\Downloads\library\jq-ws64\bin\jq.exe [options] --args [jq filter] [strings...]
       C:\Users\Spurao\Downloads\library\jq-ws64\bin\jq.exe [options] --jqfilter [jq filter] [JSON TEXTS...]

jq is a tool for processing JSON inputs, applying the given filter to
its JSON text inputs and producing the filter's results as JSON on
standard output.

The simplest filter is ., which copies its input to its output
unmodified (except for formatting, but note that 1111254 is used
for number representation internally, with all that that implies).

For more advanced filters see the jq(1) manpage ("see jq")
and/or https://stedolan.github.io/jq

Example:

$ echo '{"foo": 0}' | jq .
{
  "foo": 0
}

For a listing of options, see C:\Users\Spurao\Downloads\library\jq-ws64\bin\jq.exe --help.

Administrator: Windows PowerShell
PS C:\WINDOWS\system32> Set-ExecutionPolicy RemoteProcess -Force
Downloading https://community.chocolatey.org/api/v2/packages/chocolatey/2.3.0 to C:\Users\Spurao\AppData\Local\Temp\chocolatey\chocoinstall\chocolatey.zip
Extracting C:\Users\Spurao\AppData\Local\Temp\chocolatey\chocoinstall\chocolatey.zip to C:\Users\Spurao\AppData\Local\Temp\chocolatey\chocoinstall
Installing Chocolatey on the local machine.
Creating ChocolateyInstall as an environment variable (targeting 'Machine')
Setting ChocolateyInstall to 'C:\ProgramData\chocolatey'
WARNING: It's very likely you will need to close and reopen your shell
before you can use choco.
Restricting write permissions to Administrators
We are setting up the Chocolatey package repository.
The packages themselves go to 'C:\ProgramData\chocolatey\lib'
(i.e. C:\ProgramData\chocolatey\lib\yourPackageName).
A this file for the command line goes to 'C:\ProgramData\chocolatey\bin'
and points to an executable in 'C:\ProgramData\chocolatey\lib\yourPackageName'.
Creating Chocolatey CLI folders if they do not already exist.
Chocolatey.npkg file not installed in lib.
Attempting to locate it from bootstrapper.
Path environment variable does not have C:\ProgramData\chocolatey\bin in it. Adding...
WARNING: Not setting tab completion: Profile file does not exist at 'C:\Users\Spurao\Documents\WindowsPowerShell\Microsoft.PowerShell_profile.ps1'.
Chocolatey CLI (choco.exe) is now ready.
You can call choco from anywhere, command line or powershell by typing choco.
We chose -f for a list of functions.
You may need to shut down and restart powershell and/or command
prompt prior to using choco.
Ensuring Chocolatey commands are on the path.
Ensuring chocolatey.npkg is in the lib folder
PS C:\WINDOWS\system32> choco
Chocolatey v1.0
Please run 'choco -?' or 'choco command -?' for help menu.
PS C:\WINDOWS\system32> choco install jq
Chocolatey v1.0
Installing the following packages:
jq
By installing, you accept licenses for the packages.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading jq 1.7.1... 100%

jq v1.7.1 [Approved]
jq package files install completed. Performing other installation steps.
The package jq wants to run 'chocolateyinstall.ps1'.

```

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.