

## Fetch Rewards Coding Exercise - Backend Software Engineering

**Language:** JavaScript

**Framework:** Express

**Running on NodeJS**

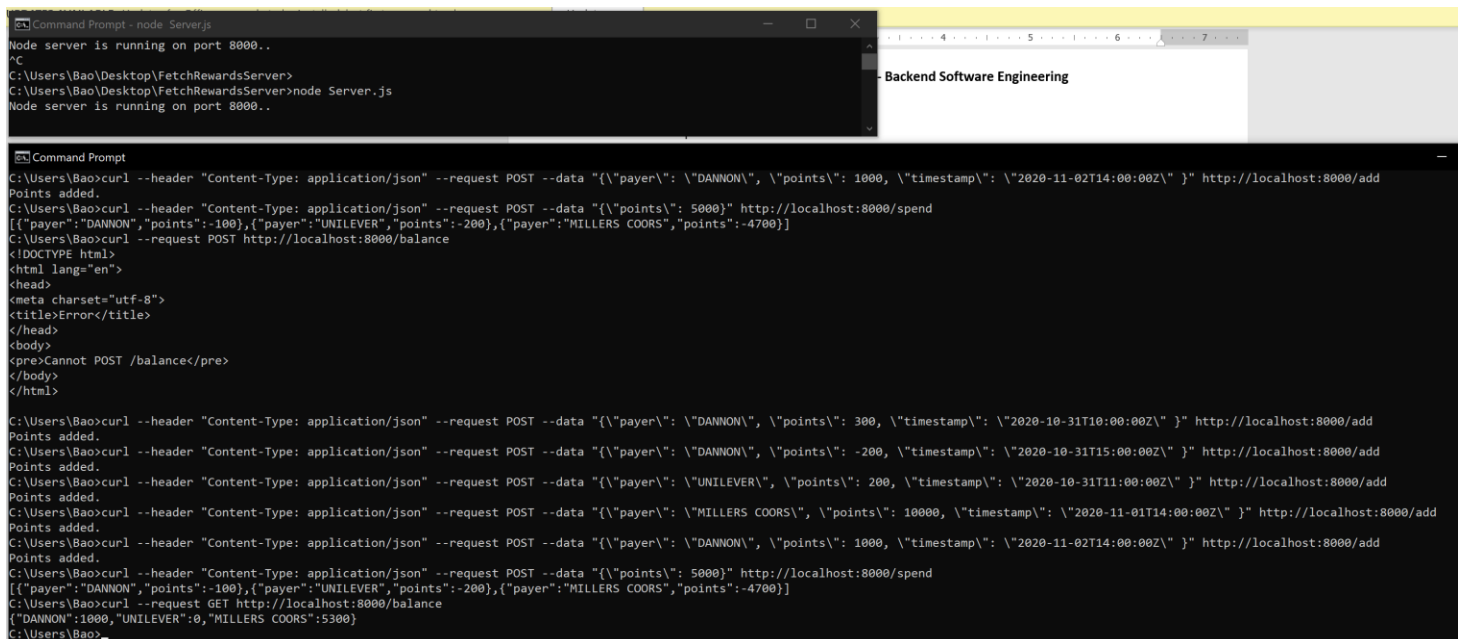
**Note:**

- No payer's points can be negative.
- Oldest points to be spent first, create array that sort all the transaction according to the timestamp (Date)
- System will not accept negative points unless a payer is already existed and holding larger total points.
- Define POST request for /add and /spend route since it influences the data.
- Define GET request for /balance route.

**Assumption:**

- Calls to transaction route will follow order of timestamp, from oldest date – most recent date.

**Challenge Testing Result:**



```
Command Prompt - node: Servers.js
Node server is running on port 8000..
^C
C:\Users\Bao\Desktop\FetchRewardsServer>
C:\Users\Bao\Desktop\FetchRewardsServer>node Server.js
Node server is running on port 8000..

Command Prompt
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "DANNON", "points": 1000, "timestamp": "2020-11-02T14:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"points": 5000}' http://localhost:8000/spend
[{"payer": "DANNON", "points": -100}, {"payer": "UNILEVER", "points": -200}, {"payer": "MILLERS COORS", "points": -4700}]
C:\Users\Bao>curl --request POST http://localhost:8000/balance
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Error</title>
</head>
<body>
<pre>Cannot POST /balance</pre>
</body>
</html>

C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "DANNON", "points": 300, "timestamp": "2020-10-31T10:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "DANNON", "points": -200, "timestamp": "2020-10-31T15:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "UNILEVER", "points": 200, "timestamp": "2020-10-31T11:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "MILLERS COORS", "points": 1000, "timestamp": "2020-11-01T14:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"payer": "DANNON", "points": 1000, "timestamp": "2020-11-02T14:00:00Z"}' http://localhost:8000/add
Points added.
C:\Users\Bao>curl --header "Content-Type: application/json" --request POST --data '{"points": 5000}' http://localhost:8000/spend
[{"payer": "DANNON", "points": -100}, {"payer": "UNILEVER", "points": -200}, {"payer": "MILLERS COORS", "points": -4700}]
C:\Users\Bao>curl --request GET http://localhost:8000/balance
{"DANNON":1000,"UNILEVER":0,"MILLERS COORS":5300}
C:\Users\Bao>
```

