Nama : Muhammad Fariz Nur Hidayat

NIM : 2211104069

Kelas : SE0603

LAPORAN TUGAS JURNAL MODUL 7

Source Code :

DataMahasiswa2211104069.js

```javascript
// Import fs untuk membaca file
import fs from 'fs';

// Membaca file JSON
const data = fs.readFileSync('./jurnal7_1_2211104069.json', 'utf-8');
const mahasiswa = JSON.parse(data);

// Menampilkan hasil ke console
console.log("=== Data Mahasiswa ===");
console.log(`Nama  : ${mahasiswa.nama}`);
console.log(`NIM   : ${mahasiswa.nim}`);
console.log(`Kelas : ${mahasiswa.kelas}`);
console.log(`Email : ${mahasiswa.email}`);
```

jurnal7_1_2211104069.json

```json
{
    "nama": "Muhammad Fariz Nur Hidayat",
    "nim": "2211104069",
    "kelas": "SE0603",
    "email": "Fariz@telkomuniversity.ac.id"
}
```

Output :

```
ng_Parsing> cd JURNAL
PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL> node DataMahasiswa22
11104069.js
=== Data Mahasiswa ===
Nama  : Muhammad Fariz Nur Hidayat
NIM   : 2211104069
Kelas : SE0603
Email : Fariz@telkomuniversity.ac.id
PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL>
```

Penjelasan :

Pada program ini, kita membaca file jurnal7_1_2211104069.json menggunakan module fs, lalu mendeserialisasi isinya menjadi object JavaScript. Data yang diambil berupa informasi pribadi mahasiswa seperti nama, NIM, kelas, dan email, kemudian ditampilkan secara terformat ke console.

TeamMembers2211104069.js

```javascript
// Import fs untuk membaca file
import fs from 'fs';

// Membaca file JSON
const data = fs.readFileSync('./jurnal7_2_2211104069.json', 'utf-8');
const teamMembers = JSON.parse(data);

// Menampilkan hasil ke console
console.log("=== Team Member List ===");
teamMembers.forEach(member => {
  console.log(`${member.nim} ${member.firstname} ${member.lastname} (${member.age} ${member.gender})`);
});
```

JSON

```json
[
    {
        "nim": "2211104069",
        "firstname": "Muhammad Fariz",
        "lastname": "Nur Hidayat",
        "age": 21,
        "gender": "Male"
    }
]
```

Output :


```
PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL> node TeamMembers2211
104069.js
=== Team Member List ===
2211104069 Muhammad Fariz Nur Hidayat (21 Male)
PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL>
```

Penjelasan :

Di program ini, file jurnal7_2_2211104069.json berisi array daftar anggota tim. File tersebut dibaca, kemudian setiap item array di-looping menggunakan forEach untuk ditampilkan dalam format "<nim> <nama lengkap> (<umur> <gender>)".

GlossaryItem2211104069.js

```javascript
1  // Import fs untuk membaca file
2  import fs from 'fs';
3
4  // Membaca file JSON
5  const data = fs.readFileSync('./jurnal7_3_2211104069.json', 'utf-8');
6  const glossary = JSON.parse(data);
7
8  // Mengakses bagian GlossEntry saja
9  const glossEntry = glossary.glossary.GlossDiv.GlossList.GlossEntry;
10
11 // Menampilkan hasil ke console
12 console.log("=== Glossary Entry ===");
13 console.log(`ID: ${glossEntry.ID}`);
14 console.log(`SortAs: ${glossEntry.SortAs}`);
15 console.log(`GlossTerm: ${glossEntry.GlossTerm}`);
16 console.log(`Acronym: ${glossEntry.Acronym}`);
17 console.log(`Abbreviation: ${glossEntry.Abbrev}`);
18 console.log(`Definition: ${glossEntry.GlossDef.para}`);
19 console.log(`GlossSee: ${glossEntry.GlossSee}`);
20 console.log(`GlossSeeAlso: ${glossEntry.GlossDef.GlossSeeAlso.join(', ')}`);
21
```

JSON

```json
1  {
2      "glossary": {
3          "title": "example glossary",
4          "GlossDiv": {
5              "title": "S",
6              "GlossList": {
7                  "GlossEntry": {
8                      "ID": "SGML",
9                      "SortAs": "SGML",
10                     "GlossTerm": "Standard Generalized Markup Language",
11                     "Acronym": "SGML",
12                     "Abbrev": "ISO 8879:1986",
13                     "GlossDef": {
14                         "para": "A meta-markup language",
15                         "GlossSeeAlso": ["GML", "XML"]
16                     },
17                     "GlossSee": "markup"
18                 }
19             }
20         }
21     }
22 }
23
```

Output :

```
● PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL> node GlossaryItem221
  1104069.js
  === Glossary Entry ===
  ID: SGML
  SortAs: SGML
  GlossTerm: Standard Generalized Markup Language
  Acronym: SGML
  Abbreviation: ISO 8879:1986
  Definition: A meta-markup language
  GlossSee: markup
  GlossSeeAlso: GML, XML
○ PS C:\Users\user\OneDrive\Desktop\KPL_Muhammad-Fariz-Nur-Hidayat_2211104069_SE-06-03\07_Grammar-Based_Input_Processing_Parsing\JURNAL>
```

Penjelasan :

Pada tugas ini, file jurnal7_3_2211104069.json dibaca dan fokus hanya pada bagian GlossEntry di dalam struktur JSON yang kompleks. Program mengambil data seperti ID, SortAs, GlossTerm, dan informasi lain, lalu menampilkannya ke console.