Nama : Kafka Putra Riyadi
Kelas : SE 07-02
NIM : 2311104041

Link Repo :

https://github.com/kafkaputrariyadi/KPL_KAFKA-PUTRA-RIYADI_2311104041_SE-07-02/tree/main/07_Grammar-Based_Input_Processing_Parsing

ScreenShoot Program

```
using System;
using System.Collections.Generic;
using System.IO;
using System.Text.Json;

public class Address
{
    public string streetAddress { get; set; }
    public string city { get; set; }
    public string state { get; set; }
}

public class Course
{
    public string code { get; set; }
    public string name { get; set; }
}

public class DataMahasiswa2311104041
{
    public string firstName { get; set; }
    public string lastName { get; set; }
    public string gender { get; set; }
    public int age { get; set; }
    public Address address { get; set; }
    public List<Course> courses { get; set; }

    public static void ReadJSON()
    {
        string path = "jurnal7_1_2311104041.json";
        string json = File.ReadAllText(path);

        var data = JsonSerializer.Deserialize<DataMahasiswa2311104041>(json);

        Console.WriteLine($"Nama     : {data.firstName} {data.lastName}");
        Console.WriteLine($"Gender   : {data.gender}");
        Console.WriteLine($"Age      : {data.age}");
        Console.WriteLine($"Alamat   : {data.address.streetAddress}, {data.address.city}, {data.address.state}");
        Console.WriteLine("Mata Kuliah:");
        foreach (var course in data.courses)
        {
            Console.WriteLine($" - {course.code} : {course.name}");
        }
    }
}
```

```
class Program
{
    static void Main(string[] args)
    {
        DataMahasiswa2311104041.ReadJSON();
        Console.WriteLine();

        TeamMembers2311104041.ReadJSON();
        Console.WriteLine();

        GlossaryItem2311104041.ReadJSON();
    }
}

```

```
using System;
using System.Collections.Generic;
using System.IO;
using System.Text.Json;

public class Member
{
    public string firstName { get; set; }
    public string lastName { get; set; }
    public string gender { get; set; }
    public int age { get; set; }
    public string nim { get; set; }
}

public class TeamData
{
    public List<Member> members { get; set; }
}

public class TeamMembers2311104041
{
    public static void ReadJSON()
    {
        string path = "jurnal7_2_2311104041.json";
        string json = File.ReadAllText(path);

        TeamData data = JsonSerializer.Deserialize<TeamData>(json);

        Console.WriteLine("Team member list:");
        foreach (var member in data.members)
        {
            Console.WriteLine($"{member.nim} {member.firstName} {member.lastName} ({member.age} {member.gender})");
        }
    }
}

```

```cs
using System;
using System.Collections.Generic;
using System.IO;
using System.Text.Json;

public class GlossDef
{
    public string para { get; set; }
    public List<string> GlossSeeAlso { get; set; }
}

public class GlossEntry
{
    public string ID { get; set; }
    public string SortAs { get; set; }
    public string GlossTerm { get; set; }
    public string Acronym { get; set; }
    public string Abbrev { get; set; }
    public GlossDef GlossDef { get; set; }
    public string GlossSee { get; set; }
}

public class GlossList
{
    public GlossEntry GlossEntry { get; set; }
}

public class GlossDiv
{
    public string title { get; set; }
    public GlossList GlossList { get; set; }
}

public class Glossary
{
    public string title { get; set; }
    public GlossDiv GlossDiv { get; set; }
}

public class GlossaryRoot
{
    public Glossary glossary { get; set; }
}

public class GlossaryItem2311104041
{
    public static void ReadJSON()
    {
        string path = "jurnal7_3_2311104041.json";
        string json = File.ReadAllText(path);

        GlossaryRoot data = JsonSerializer.Deserialize<GlossaryRoot>(json);

        var entry = data.glossary.GlossDiv.GlossList.GlossEntry;

        Console.WriteLine("=== Gloss Entry ===");
        Console.WriteLine($"ID        : {entry.ID}");
        Console.WriteLine($"Term      : {entry.GlossTerm}");
        Console.WriteLine($"Acronym   : {entry.Acronym}");
        Console.WriteLine($"Abbrev    : {entry.Abbrev}");
        Console.WriteLine($"Definition: {entry.GlossDef.para}");
        Console.WriteLine("See Also  : " + string.Join(", ", entry.GlossDef.GlossSeeAlso));
        Console.WriteLine($"See       : {entry.GlossSee}");
    }
}

```

Penjelasan :

1. Program.cs
   Ini adalah *entry point* dari program (fungsi utama Main).

   Program menjalankan tiga metode ReadJSON() dari tiga kelas berbeda:

1. DataMahasiswa2311104041
2. TeamMembers2311104041
3. GlossaryItem2311104041

   Masing-masing membaca file JSON yang berbeda dan menampilkan datanya ke console.

2. DataMahasiswa2311104041.cs
   Struktur JSON yang dibaca: jurnal7_1_2311104041.json

   Penjelasan Kode:

   Kelas Address, Course, dan DataMahasiswa2311104041 adalah representasi

   dari struktur data JSON.

   Metode ReadJSON():

   1. Membaca isi file JSON menggunakan File.ReadAllText.
   2. Mengubah JSON menjadi objek DataMahasiswa2311104041 dengan JsonSerializer.Deserialize.
   3. Menampilkan data mahasiswa: nama, gender, usia, alamat, dan daftar mata kuliah.

3. TeamMembers2311104041.cs

   Struktur JSON yang dibaca: jurnal7_2_2311104041.json

   Penjelasan Kode:

   - Kelas Member mewakili data tiap anggota tim.

- Kelas TeamData membungkus daftar member.
- ReadJSON():
    1. Membaca file JSON berisi daftar anggota tim.
    2. Melakukan deserialisasi ke objek TeamData.
    3. Menampilkan informasi NIM, nama, usia, dan gender setiap anggota.

4. GlossaryItem2311104041.cs

   Struktur JSON yang dibaca: jurnal7_3_2311104041.json

   Penjelasan Kode:

   - JSON glossary memiliki struktur bertingkat:
       1. GlossaryRoot → glossary → GlossDiv → GlossList → GlossEntry
   - GlossDef berisi deskripsi dan daftar “See Also”.
   - ReadJSON():
       1. Membaca JSON glossary.
       2. Menampilkan detail istilah seperti ID, term, akronim, singkatan, definisi, dan referensi.

Screenshoot Outputannya: