

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

```
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  using System.Text.Json;
5
6  public class Address
7  {
8      public string streetAddress { get; set; }
9      public string city { get; set; }
10     public string state { get; set; }
11 }
12
13 public class Course
14 {
15     public string code { get; set; }
16     public string name { get; set; }
17 }
18
19 public class DataMahasiswa2311104041
20 {
21     public string firstName { get; set; }
22     public string lastName { get; set; }
23     public string gender { get; set; }
24     public int age { get; set; }
25     public Address address { get; set; }
26     public List<Course> courses { get; set; }
27
28     public static void ReadJSON()
29     {
30         string path = "jurnal7_1_2311104041.json";
31         string json = File.ReadAllText(path);
32
33         var data = JsonSerializer.Deserialize<DataMahasiswa2311104041>(json);
34
35         Console.WriteLine($"Nama      : {data.firstName} {data.lastName}");
36         Console.WriteLine($"Gender   : {data.gender}");
37         Console.WriteLine($"Age     : {data.age}");
38         Console.WriteLine($"Alamat  : {data.address.streetAddress}, {data.address.city}, {data.address.state}");
39         Console.WriteLine("Mata Kuliah:");
40         foreach (var course in data.courses)
41         {
42             Console.WriteLine($" - {course.code} : {course.name}");
43         }
44     }
45 }
46
```

```

1  class Program
2  {
3      static void Main(string[] args)
4      {
5          DataMahasiswa2311104041.ReadJSON();
6          Console.WriteLine();
7
8          TeamMembers2311104041.ReadJSON();
9          Console.WriteLine();
10
11         GlossaryItem2311104041.ReadJSON();
12     }
13 }
14

```

```

1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  using System.Text.Json;
5
6  public class Member
7  {
8      public string firstName { get; set; }
9      public string lastName { get; set; }
10     public string gender { get; set; }
11     public int age { get; set; }
12     public string nim { get; set; }
13 }
14
15 public class TeamData
16 {
17     public List<Member> members { get; set; }
18 }
19
20 public class TeamMembers2311104041
21 {
22     public static void ReadJSON()
23     {
24         string path = "jurnal7_2_2311104041.json";
25         string json = File.ReadAllText(path);
26
27         TeamData data = JsonSerializer.Deserialize<TeamData>(json);
28
29         Console.WriteLine("Team member list:");
30         foreach (var member in data.members)
31         {
32             Console.WriteLine($"{member.nim} {member.firstName} {member.lastName} ({member.age} {member.gender})");
33         }
34     }
35 }
36

```

```

1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  using System.Text.Json;
5
6  public class GlossDef
7  {
8      public string para { get; set; }
9      public List<string> GlossSeeAlso { get; set; }
10 }
11
12 public class GlossEntry
13 {
14     public string ID { get; set; }
15     public string SortAs { get; set; }
16     public string GlossTerm { get; set; }
17     public string Acronym { get; set; }
18     public string Abbrev { get; set; }
19     public GlossDef GlossDef { get; set; }
20     public string GlossSee { get; set; }
21 }
22
23 public class GlossList
24 {
25     public GlossEntry GlossEntry { get; set; }
26 }
27
28 public class GlossDiv
29 {
30     public string title { get; set; }
31     public GlossList GlossList { get; set; }
32 }
33
34 public class Glossary
35 {
36     public string title { get; set; }
37     public GlossDiv GlossDiv { get; set; }
38 }
39
40 public class GlossaryRoot
41 {
42     public Glossary glossary { get; set; }
43 }
44
45 public class GlossaryItem2311104041
46 {
47     public static void ReadJSON()
48     {
49         string path = "jurnal7_3_2311104041.json";
50         string json = File.ReadAllText(path);
51
52         GlossaryRoot data = JsonSerializer.Deserialize<GlossaryRoot>(json);
53
54         var entry = data.glossary.GlossDiv.GlossList.GlossEntry;
55
56         Console.WriteLine("=== Gloss Entry ===");
57         Console.WriteLine($"ID          : {entry.ID}");
58         Console.WriteLine($"Term          : {entry.GlossTerm}");
59         Console.WriteLine($"Acronym       : {entry.Acronym}");
60         Console.WriteLine($"Abbrev        : {entry.Abbrev}");
61         Console.WriteLine($"Definition: {entry.GlossDef.para}");
62         Console.WriteLine($"See Also    : " + string.Join(", ", entry.GlossDef.GlossSeeAlso));
63         Console.WriteLine($"See          : {entry.GlossSee}");
64     }
65 }
66

```

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:

```
Microsoft Visual Studio Debug Console
Nama      : Kafka Putra Riyadi
Gender    : male
Age       : 19
Alamat    : South Red Onion Road, Brebes, Central Java
Mata Kuliah:
- CCK2KAB4 : Konstruksi Perangkat Lunak
- CCK2CAB3 : Pemodelan Perangkat Lunak
- CCK2JAC2 : Proyek Tingkat 2
- CCK1KAB3 : Rekayasa Kebutuhan Perangkat Lunak
- CCK2HAB4 : Basis Data
- CCK2GAB3 : Interaksi Manusia Komputer
- CCK2FAB4 : Arsitektur Dan Desain Perangkat Lunak

Team member list:
2311114041 Kafka Putra Riyadi (19 male)
2311104078 Naura Aisha Zahira (19 female)
2311104066 Faishal Arif Setiawan (18 male)
2311104054 Ahmad Al - Farizi (20 male)
2311104075 Ganes Gemi Putra (20 male)

=== Gloss Entry ===
ID      : SGML
Term    : Standard Generalized Markup Language
Acronym : SGML
Abbrev  : ISO 8879:1986
Definition: A meta-markup language, used to create markup languages such as DocBook.
See Also : GML, XML
See      : markup
```