## Template grilă:

Student propunător: Suciu Alin Florin Grupa: 227 Email: suciualinflorin@gmail.com

Ce se afișează la rularea codului urmator?   
  
**fisier: Model.Masina.cs**

**namespace Lab7.Model**

**{**

**public class Masina : Entity<int>**

**{**

**public string Model { get; set; }**

**public string Culaore { get; set; }**

**public Masina(string model, string culaore) {**

**Model = model;**

**Culaore = culaore;**

**}**

**public static Masina CreateMasina(string line)**

**{**

**string[] fields = line.Split(";");**

**int id = int.Parse(fields[0]);**

**string model = fields[1];**

**string culoare = fields[2];**

**return new Masina(model, culoare);**

**}**

**public override string ToString() { return Model + " " + Culaore; }**

**}**

**fisier: Model.Entity.cs**

**namespace Lab7.Model**

**{**

**public class Entity<TID>**

**{**

**public TID ID { get; set; }**

**}**

**}**

**fisier: Repo.IRepository.cs**

**using System.Collections.Generic;**

**using Lab7.Model;**

**namespace Lab7.Repo**

**{**

**public interface IRepository<ID, E> where E : Entity<ID>**

**{**

**IEnumerable<E> FindAll();**

**E Save(E entity);**

**E FindOne(ID id);**

**}**

**}**

**fisier: Repo.InMemoryRepository.cs**

**using System;**

**using System.Collections.Generic;**

**using System.Linq;**

**using Lab7.Model;**

**namespace Lab7.Repo**

**{**

**public class InMemoryRepository<ID, E> : IRepository<ID, E> where E : Entity<ID>**

**{**

**protected IDictionary<ID, E> \_entities = new Dictionary<ID, E>();**

**public IEnumerable<E> FindAll()**

**{**

**return \_entities.Values.ToList();**

**}**

**public E Save(E entity)**

**{**

**if (entity == null)**

**throw new ArgumentException("argument must be not null");**

**if (this.\_entities.ContainsKey(entity.ID))**

**{**

**return entity;**

**}**

**this.\_entities[entity.ID] = entity;**

**return default(E);**

**}**

**public E FindOne(ID id)**

**{**

**return \_entities[id];**

**}**

**}**

**}**

**fisier: Repo.InFileRepository.cs**

**using System;**

**using System.Collections.Generic;**

**using Lab7.Model;**

**namespace Lab7.Repo**

**{**

**public delegate E CreateEntity<E>(string line);**

**public class InFileRepository<ID, E> : InMemoryRepository<ID, E> where E : Entity<ID>**

**{**

**protected string fileName;**

**protected CreateEntity<E> \_createEntity;**

**public InFileRepository(String fileName, CreateEntity<E> createEntity)**

**{**

**this.fileName = fileName;**

**this.\_createEntity = createEntity;**

**if (createEntity != null)**

**loadFromFile();**

**}**

**protected void loadFromFile()**

**{**

**List<E> list = DataReader.ReadData(fileName, \_createEntity);**

**list.ForEach(x => \_entities[x.ID] = x);**

**}**

**}**

**}**

**fisier: Repo.MasinaInFileRepository.cs**

**using Lab7.Model;**

**namespace Lab7.Repo**

**{**

**public class MasinaInFileRepository : InFileRepository<int, Masina>**

**{**

**public MasinaInFileRepository(string fileName, CreateEntity<Masina> createEntity) : base(fileName, Masina.CreateMasina) {}**

**}**

**}**

**fisier: MasinaMain.cs**

**using System;**

**using Lab7.Model;**

**using Lab7.Repo;**

**namespace Lab7**

**{**

**public class MasinaMain**

**{**

**static void Main(string[] args)**

**{**

**MasinaInFileRepository repoMasini = new MasinaInFileRepository("..\\..\\..\\data\\Masini.txt", Masina.CreateMasina);**

**foreach (var masina in repoMasini.FindAll())**

**{**

**Console.WriteLine(masina);**

**}**

**}**

**}**

**}**

**fisier:Data.Masini.txt**

**3;Audi;Negru**

**8;Fiat;Mov**

**}** Variante de răspuns: ( raspuns multiplu )

1. Audi Negru
2. Fiat Mov
3. Nimic
4. Runtime Error

* **Justificare raspuns (campul Explanation in Qlearn) :**

Afiseaza doar Fiat Mov fiindca in functia CreateMasina nu este returnata o masina cu id, atunci toate cele introduse suprascriu pe cheia cu valoare nula si doar ultima ramane.

* Identificati conceptele din curs care au legatura cu grila propusa: delegate
* **Referinte web:** [**https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/delegates/**](https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/delegates/)
* Dificultate: (Easy, **Medium**, Difficult)