# Fighting Arena

## Preparation

Download the skeleton provided in Judge. **Do not** change the **StartUp** class or its **namespace**.

## Problem description

Your task is to create an arena which stores gladiators by creating the classes described below.

First, write a C# class **Weapon** with the following properties:

* **Size: int**
* **Solidity: int**
* **Sharpness: int**

The class **constructor** should receive **size, solidity and sharpness**.

Next, write a C# class **Stat** with the following properties:

* **Strength: int**
* **Flexibility: int**
* **Agility: int**
* **Skills: int**
* **Intelligence: int**

The class **constructor** should receive **strength, flexibility, agility, skills and intelligence.**

Next, write a C# class **Gladiator** with the following properties and methods:

* **Name: string**
* **Stat: Stat**
* **Weapon: Weapon**
* **GetTotalPower(): int –** return the sum of the stat properties plus the sum of the weapon properties.
* **GetWeaponPower(): int -** return the sum of the weapon properties.
* **GetStatPower(): int -** return the sum of the stat properties.

The class **constructor** should receive **name, stat and weapon** and **override ToString()** in the following format:

"[Gladiator name] - [Gladiator total power]"

" Weapon Power: [Gladiator weapon power]"

" Stat Power: [Gladiator stat power]"

Write a C# class **Arena** that has **gladiators** (a collection which stores the class **Gladiator**).

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| **public class** Arena  {  *//* ***TODO: implement this class*** } |

The class **constructor** should initialize the **gladiators** with a new instance of the collection**.** Implement the following features:

* Field **gladiators** – **collection** that holds added gladiators
* **Property Name - string**
* Method Add(Gladiator gladiator) – adds an gladiator to the arena.
* Method Remove(string name) – removes an gladiator by given name.
* Method **GetGladitorWithHighestStatPower**() – returns the Gladiator which has the highest stat.
* Method **GetGladitorWithHighestWeaponPower**() – returns the Gladiator which poses the weapon with the highest power.
* Method **GetGladitorWithHighestTotalPower**() – returns the Gladiator which has the highest total power.
* Getter Count – returns the number of stored heroes.
* Оverride **ToString()** – by the format below.

"[Arena name] - [count of gladiators] gladiators are participating."

## Constraints

* The names of the gladiators will be always unique.
* The weapons and the stat properties of the gladiators will always be with positive values.
* The weapon power, stat power and total power of the gladiators will always be different.
* You will always have a gladiator with the highest stat, weapon and total power.

## Examples

This is an example how the **Arena** class is **intended to be used**.

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| Sample code usage |
| //Creates arena  Arena arena = new Arena("Armeec");  //Creates stats  Stat firstGlariatorStat = new Stat(20, 25, 35, 14, 48);  Stat secondGlariatorStat = new Stat(40, 40, 40, 40, 40);  Stat thirdGlariatorStat = new Stat(20, 25, 35, 14, 48);  //Creates weapons  Weapon firstGlariatorWeapon = new Weapon(5, 28, 100);  Weapon secondGlariatorWeapon = new Weapon(5, 28, 100);  Weapon thirdGlariatorWeapon = new Weapon(50, 50, 50);  //Creates gladiators  Gladiator firstGladiator = new Gladiator("Stoyan", firstGlariatorStat, firstGlariatorWeapon);  Gladiator secondGladiator = new Gladiator("Pesho", secondGlariatorStat, secondGlariatorWeapon);  Gladiator thirdGladiator = new Gladiator("Gosho", thirdGlariatorStat, thirdGlariatorWeapon);  //Adds gladiators to arena  arena.Add(firstGladiator);  arena.Add(secondGladiator);  arena.Add(thirdGladiator);  //Prints gladiators count at the arena  Console.WriteLine(arena.Count);  //Gets strongest gladiator and print him  Gladiator strongestGladiator = arena.GetGladitorWithHighestTotalPower();  Console.WriteLine(strongestGladiator);  //Gets gladiator with the strongest weapon and print him  Gladiator bestWeaponGladiator = arena.GetGladitorWithHighestWeaponPower();  Console.WriteLine(bestWeaponGladiator);  //Gets gladiator with the strongest stat and print him  Gladiator bestStatGladiator = arena.GetGladitorWithHighestStatPower();  Console.WriteLine(bestStatGladiator);  //Removes gladiator  arena.Remove("Gosho");  //Prints gladiators count at the arena  Console.WriteLine(arena.Count);  //Prints the arena  Console.WriteLine(arena); |

## Submission

Zip all the files in the project folder except **bin** and **obj** folders