

**Le Kata est très important pour nous et doit donc être réalisé comme un projet professionnel.**  
**Le code doit être « pushé » dans Github afin de faire une revue.**

*Dans ce kata, vous vous focaliserez sur le score d'un set de Tennis.*

*Prérequis:*

*Ecrire un programme qui prend en compte ces éléments pour le tableau des scores entre deux joueurs de Tennis.*

*Les joueurs doivent être capables de marquer des points.*

*Le set doit être fini avec un gagnant.*

*Après qu'une partie soit gagnée, le joueur gagnant doit être déterminé.*

*On doit pouvoir suivre le score de chaque joueur à tout moment durant la partie.*

### **SPRINT1 : manage a tennis GAME within a set of a tennis match**

#### **User Story 1 :**

*As a tennis referee*

*I want to manage the score of a game of a set of a tennis match between 2 players with simple Game rules*

*In order to display the current Game score of each player*

#### **Rules details:**

- *The game starts with a score of 0 point for each player*
- *Each time a player win a point, the Game score changes as follow:  
0 -> 15 -> 30 -> 40-> Win game*

#### **Example:**

GAME SCORE								
	Start the game	Player 1 wins 1 point	Player 1 wins 1 point	Player 2 wins 1 point	Player 1 wins 1 point	Player 2 wins 1 point	Player 2 wins 1 point	Player 2 wins 1 point
Player 1	0	15	30	30	40	40	40	0
Player 2	0	0	0	15	15	30	40	0
								Player 2 win the game

#### **User Story 2 :**

*As a tennis referee*

*I want to manage the specific of the rule DEUCE at the end of a Game*

*In order to display the current Game score of each player*

#### **Rules details:**

- *If the 2 players reach the score 40, the DEUCE rule is activated*
- *If the score is DEUCE , the player who win the point take the ADVANTAGE*
- *If the player who has the ADVANTAGE win the point, he win the game*
- *If the player who has the ADVANTAGE looses the point, the score is DEUCE*

#### **Example:**

GAME SCORE											
	Start the game	Player 1 wins 1 point	Player 1 wins 1 point	Player 2 wins 1 point	Player 1 wins 1 point	Player 2 wins 1 point	Player 2 wins 1 point	Player 2 wins 1 point	Player 2 wins 1 point	Player 1 wins 1 point	Player 1 wins 1 point
Player 1	0	15	30	30	40	40	40	40	DEUCE	ADV	0

Player 2	0	0	0	15	15	30	40	ADV	DEUCE	40	0
											Player 1 win the game

## SPRINT2 : manage a Tennis SET within a tennis match

### User Story 1 :

As a tennis referee

I want to manage the score of a set of a tennis match between 2 players

In order to display the current Game (SPRINT 1) & Set score of each player

#### Rules details:

- The set starts with a score of 0 Game for each player
- Each time a player win a Game (see SPRINT 1), the Set score changes as follow:  
1 -> 2 -> 3 -> 4 -> 5 -> 6 (-> 7)
- If a player reach the Set score of 6 and the other player has a Set score of 4 or lower, the player win the Set
- If a player wins a Game and reach the Set score of 6 and the other player has a Set score of 5, a new Game must be played and the first player who reach the score of 7 wins the match

#### Example:

SET SCORE																								
	Start the game & Set		Player 1 wins 1 point		Player 2 wins 1 point				Player 1 wins 1 point		Player 1 wins 1 point		Player 2 wins 1 Game		Player 2 wins 1 Game				Player 2 wins 1 Game		Player 2 wins 1 Game		Player 2 wins 1 Game	
	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score	Game Score	Set score
Player 1	0	0	15	0	30	0	30	0	40	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
Player 2	0	0	0	0	0	0	15	0	15	0	0	0	0	1	0	2	0	3	0	4	0	5	0	6
												Player 1 wins the 1st game of the set												Player 2 wins the set

### User Story 2 :

As a tennis referee

I want to manage the specific of the rule of Tie-Break at the end of the Set

In order to display the current Game, Set score & Tie-Break score of each player

#### Rules details:

- If the 2 players reach the score of 6 Games , the Tie-Break rule is activated
- Each time a player win a point, the score changes as follow:  
1 -> 2 -> 3 -> 4 -> 5 -> 6 -> 7 (-> 8-> 9-> 10-> ...)
- The Tie-Break ends as soon as a player gets a least 7 points and 2 points more than his opponent
- The player who wins the Tie-Break wins the Set and the match

Example:

SET SCORE																															
Initial Score of the Set		Player 1 wins 1 point			Player 2 wins 1 point						Player 1 wins 1 point			Player 1 wins 1 point						Player 1 wins 1 point			Player 1 wins 1 point						Player 1 wins 1 point		
	Game Score	Set score	Game Score	Set score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score	Game Score	Set score	Tie Break score
Player 1	40	5	0	6	0	6	1	0	6	1	0	6	2	0	6	3	0	6	3	0	6	4	0	6	5	0	6	6	0	7	0
Player 2	15	6	0	6	0	6	0	0	6	1	0	6	1	0	6	1	0	6	2	0	6	2	0	6	2	0	6	2	0	6	0
																															Player 1 wins the set and match