**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 1 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** |
|  |  |  |  |  |  |  |  | DEUCE RULE | | |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

***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 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** | | **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 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** | | | **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** |

TIE BREAK RULE