

IPL Player Evaluator

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Abstract:

The Indian Premier League (IPL) is a professional [Twenty20 cricket](#) league in [India](#) contested during April and May of every year by 8 teams representing Indian cities. Every year an auction is held prior to the start of tournament where all the 8 IPL team owners bid for the players. IPL Player Evaluator is a rule based expert system built on JESS that is designed to evaluate a player's based on his statistics. The system based on the player's various statistics like matches, age, runs scored, batting average, strike rate, wickets and economy evaluates whether player is fit for a team. Key statistics like average, strike rate, wickets and economy are used as fuzzy variables which are classified into different categories. These form the base for the evaluation report of the player.

Rules:

There are 20 Rules in the application

- (1) The important statistics are declared as fuzzy variables with respective parameters
- (2) This rule prints all the given user input.
- (3) Validates the type of player, it must be either batsman or bowler or allrounder
- (4) Validates the age of the player
- (5, 6, 7) These 3 rules are called based on the player's average and they provide corresponding feedback
- (8, 9, 10) These 3 rules are called based on the player's strike rate and they provide corresponding feedback
- (11, 12, 13) These 3 rules are called based on the player's wickets and they provide corresponding feedback
- (14, 15, 16) These 3 rules are called based on the player's economy rate and they provide corresponding feedback
- (17) This rule calculates the overall ability of the player type - batsman
- (18) This rule calculates the overall ability of the player type - allrounder
- (19) This rule calculates the overall ability of the player type - bowler
- (20) This rule is used to provide the input to the program

Instructions:

1. Create a new java project in eclipse
2. Create a new clp file
3. Copy the contents of "**IPL_PLAYER_EVALUATOR.clp**" into the newly created file
4. Include the "**fuzzyJ-2.0.jar**" in the library
5. In the edit configuration change the jess main class to "**nrc.fuzzy.jess.FuzzyMain**"
6. Run the file

Test Cases:

Try giving in the following inputs all the stats taken from IPLT20.COM

```
(assert (player
  (playerName "David Warner") (playerAge 31) (playerType "batsman") (matches 114) (Average 40.54)
  (StrikeRate 142.13) (Wickets 0) (Economy 0))
))
```

```
(assert (player
  (playerName "Eoin Morgan") (playerAge 31) (playerType "batsman") (matches 52) (Average 21.35)
  (StrikeRate 121.13) (Wickets 0) (Economy 0))
))
```

```
(assert (player
  (playerName "Axar Patel") (playerAge 24) (playerType "allrounder") (matches 59) (Average 20.20)
  (StrikeRate 128.11) (Wickets 58) (Economy 7.41))
))
```

```
(assert (player
  (playerName "Yusuf Pathan") (playerAge 35) (playerType "allrounder") (matches 149) (Average 29.20)
  (StrikeRate 145.49) (Wickets 42) (Economy 7.39))
))
```

```
(assert (player
  (playerName "Rashid Khan") (playerAge 19) (playerType "bowler") (matches 14) (Average 5.5) (StrikeRate
  122.22) (Wickets 17) (Economy 6))
))
```

```
(assert (player
  (playerName "Chris Jordan") (playerAge 29) (playerType "bowler") (matches 10) (Average 1.5) (StrikeRate 60)
  (Wickets 12) (Economy 9.2))
))
```

Sample Outputs:

```
Problems @ Javadoc Console X
<terminated> main.clp [Jess Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Feb 27, 2018 11:25:01)

Jess, the Rule Engine for the Java Platform
Copyright (C) 2008 Sandia Corporation
Jess Version 7.1p2 11/5/2008

This copy of Jess will expire in 1799 day(s).
*****Welcome to IPL Player Evaluator*****
The player David Warner is being evaluated
=====
STATISTICS
=====
Age: 31
Type: batsman
Matches: 114
Average: 40.54
Strike Rate: 142.13
Wickets: 0
Economy: 0
Good strikerate will be handy for T20 cricket.
The player has an impressive average.
The player has impressive stats, is ideal fit for the team.
```

```
Problems @ Javadoc Console X
<terminated> main.clp [Jess Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Feb 27, 2018 11:36)

Jess, the Rule Engine for the Java Platform
Copyright (C) 2008 Sandia Corporation
Jess Version 7.1p2 11/5/2008

This copy of Jess will expire in 1799 day(s).
*****Welcome to IPL Player Evaluator*****
The player Rashid Khan is being evaluated
=====
STATISTICS
=====
Age: 19
Type: bowler
Matches: 14
Average: 5.5
Strike Rate: 122.22
Wickets: 17
Economy: 6.62
The player takes wickets regularly a good asset for the team.
The player has a good economy rate.
The player has an overall good stats and is good fit for the team.
```