

Function Assignment

By now, you must be tired of typing in the SQL to create the player's Full name. The SQL is
`nameFirst + ' (' + nameGiven + ') ' + nameLast`

SQL provides the ability to write functions that can be called from SQL to run code as part of select statement. See the following links for information and examples:

- <https://docs.microsoft.com/en-us/sql/relational-databases/user-defined-functions/create-user-defined-functions-database-engine?view=sql-server-2017>
- <http://www.sqlteam.com/articles/user-defined-functions>

By creating a function, you can take snippets of SQL and eliminate the repetitive coding of the same SQL over and over such as the Full Name.

For this assignment, you must write a scalar function (a function that returns a single value) that is passed the playerid and returns the career **Power finesse ratio** or **PFR**. This is a statistical measure of the performance of a [pitcher](#) used in [Sabermetrics](#). It is the sum of [strikeouts](#) (SO) and [walks](#) (BB) divided by [innings pitched](#). The alternative to a strikeout or a walk is either a hit or an action by a fielder (that is, the batter "puts the ball in play"), so it is an estimate of the number of times that the pitcher, rather than the batter or fielder(s), determines the outcome of the at-bat. To calculate a career PFR, simply sum all the columns required for the calculation. The PITCHING table does not contain a column for innings pitched, so you will have to estimate it by dividing IPOuts (Outs Pitched (innings pitched x 3) by 3. To test your function, write the following sql and use the function you wrote to get the player's PFR. If there is no entry for the player in the PITCHING table, the function should return a value of 0. You should also leave the result unformatted so that it can be used in calculation When you create the function, start the name with your UCID. The select statement you submit with your function SQL is:

```
select playerid, nameFirst + ' ( ' + nameGiven + ' ) ' + nameLast,  
       dbo.UCID_PFR(playerid) as PFR from PEOPLE
```

Note that you do not need to reference the PITCHING table in your query even though it returns data from that table. Also code your function so that it returns N/A if the calculated value is null.

Submit the SQL to create the function and the queries for the above in a single .SQL file. You will need to put go statements between the create function and the select SQL so that it runs without manual intervention.

playerid	fullname	PFR
aardsda01	David (David Allan) Aardsma	1.570570
aaronha01	Hank (Henry Louis) Aaron	0.000000
aaronto01	Tommie (Tommie Lee) Aaron	0.000000
aasedo01	Don (Donald William) Aase	0.992766