

Consider the `game_goalie_stats.csv` data file posted on Blackboard. This file contains goalie stats from different teams. In **Python**, answer the following:

1. In **Python**, answer the following:

(a) (3 points) Using the pandas library, read the csv data file and create a data-frame called `goalie_stats`.

```
import pandas as pd

## Reading csv file
goalie_stats = pd.read_csv('game_goalie_stats.csv')
```

(b) (3 points) Report the average time on ice of each goalie.

```
## Computing average time on ice
goalie_stats.groupby(['player_id'])['timeOnIce'].mean()
```

(c) (3 points) Report the goalie with the maximum time on ice.

```
## Computing the maximum time on ice
goalie_stats.groupby(['player_id'])['timeOnIce'].max().sort_values(ascending = False)
```

2. In **R**, answer the following:

(a) (3 points) Using the `read.csv` function, read the csv data file and create a data-frame called `goalie_stats`.

```
## Reading csv file
goalie_stats = read.csv(file = 'game_goalie_stats.csv')
```

(b) (3 points) Report the number of games of each goalie.

```
## Loading plyr package
library(plyr)

games_goalies = ddply(goalie_stats, .(player_id),
                      summarise, numb_games = length(unique(game_id)))
```

(c) (3 points) Create a histogram of the goalies' number of games.

```
## Creating the histogram
hist(games_goalies$numb_games, col = 'gray', main = 'NHL Goalies',
     xlab = 'Number of Games')
box()
```