# **BST 270: Final Project**

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### Set-Up

#### 538 Article

From Carl Biakin's article "Why Some Tennis Matches Take Forever", we will recreate his second table (summarizing the tennis players with the fastest and slowest pace of play, with other notable players included) and figure (visualizing the career changes in pace for Roger Federer, Andy Murray, Novak Djokovic, and Rafael Nadal).

#### **Table**

| ı uə              | test players          |        | Slov | vest players     |       |
|-------------------|-----------------------|--------|------|------------------|-------|
| 1                 | Dustin Brown          | -6.37s | 209  | Michael Chang    | +4.94 |
| 2                 | Rohan Bopanna         | -4.95  | 210  | Joao Cunha Silva | +5.10 |
| 3                 | Chris Guccione        | -4.63  | 211  | Julian Knowle    | +5.15 |
| 4                 | Benoit Paire          | -4.56  | 212  | John McEnroe     | +5.22 |
| 5                 | Lukas Dlouhy          | -4.35  | 213  | Lucas Arnold Ker | +5.35 |
| 6                 | Brendan Evans         | -4.25  | 214  | T.J. Middleton   | +5.60 |
| 7                 | Igor Sijsling         | -4.19  | 215  | Martin Stringari | +5.68 |
| 8                 | Lukas Rosol           | -4.13  | 216  | Rafael Nadal     | +5.92 |
| 9                 | Alexander Kudryavtsev | -4.05  | 217  | Nicolas Massu    | +6.21 |
| 10<br>Oth         | Sam Querrey           | -3.99  | 218  | Emanuel Couto    | +6.35 |
| 22                | Goran Ivanisevic      | -3.15s |      |                  |       |
| 36                | Roger Federer         | -2.43  |      |                  |       |
|                   | Novak Djokovic        | +2.21  |      |                  |       |
| 124               | A al A A              | +2.53  |      |                  |       |
| 124<br>141        | Andy Murray           |        |      |                  |       |
|                   | Pat Cash              | +3.73  |      |                  |       |
| 141<br>191        |                       | +3.73  |      |                  |       |
| 141<br>191<br>202 | Pat Cash              |        |      |                  |       |

First, we generate generate each of the three tables included in the image above, using the players\_time.csv table.

We now must arrange the tables and include the descriptive information to mirror the image as presented in Biakis's article.

| Rank | player                | seconds_added_per_point |
|------|-----------------------|-------------------------|
| 1    | Dustin Brown          | -6.37                   |
| 2    | Rohan Bopanna         | -4.95                   |
| 3    | Chris Guccione        | -4.63                   |
| 4    | Benoit Paire          | -4.56                   |
| 5    | Lukas Dlouhy          | -4.35                   |
| 6    | Brendan Evans         | -4.25                   |
| 7    | Igor Sijsling         | -4.19                   |
| 8    | Lukas Rosol           | -4.13                   |
| 9    | Alexander Kudryavtsev | -4.05                   |
| 10   | Sam Querrey           | -3.99                   |

| Rank | player           | $seconds\_added\_per\_point$ |
|------|------------------|------------------------------|
| 209  | Michael Chang    | 4.94                         |
| 210  | Joao Cunha Silva | 5.10                         |
| 211  | Julian Knowle    | 5.15                         |
| 212  | John McEnroe     | 5.22                         |
| 213  | Lucas Arnold Ker | 5.35                         |
| 214  | T.J. Middleton   | 5.60                         |
| 215  | Martin Stringari | 5.68                         |

| 216 | Rafael Nadal  | 5.92 |
|-----|---------------|------|
| 217 | Nicolas Massu | 6.21 |
| 218 | Emanuel Couto | 6.35 |

| Rank | player           | seconds_added_per_point |
|------|------------------|-------------------------|
| 22   | Goran Ivanisevic | -3.15                   |
| 36   | Roger Federer    | -2.43                   |
| 124  | Novak Djokovic   | 2.21                    |
| 141  | Andy Murray      | 2.53                    |
| 191  | Pat Cash         | 3.73                    |
| 202  | Ivan Lendl       | 4.35                    |
| 203  | Jim Courier      | 4.51                    |
| 207  | Jimmy Connors    | 4.90                    |

# **Figure**

