De Anza College
CIS 22C – Spring 2016
Team 4

PROGRAM DEMONSTRATION

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1. Execute the program
   Main menu should look like this:

   ```
   --------Main Menu--------
   1. Add new data
   2. Delete data
   3. Find data
   4. List hash sequence
   5. List sorted data
   6. Print indented tree
   7. Print efficieny
   8. Team choice
   9. Save to file
   10. Exit
   ------------------------

   Enter a choice:
   ```

2. Try invalid menu selections
   Purpose: menu will only work by entering characters 1-10

   - **Enter "asdf"**
   - **Enter "0"**
   - **Enter "11"**
   - **Enter "191"**
   - **Enter "ASDF"**
   - **Return to main menu**

3. Try showing data of empty tree/hash table
   Purpose: Show that no data has been entered, nothing to print

   - **Enter "4"**
   - **Press any key to exit**
   - **Enter "6"**
   - **Enter "1" or "2" or "3"**
   - **Press any key to exit**
   - **Return to main menu**

4. Add data
   Purpose: Show how to add data – 2 options
   Manually – add a player manually; requires entering name, team, and all stats
   Use default file – uses the default input file we created i.e. "RB_stats_2015.txt"

   - **Enter "1"**

   Menu options now show:

   ```
   Would you like to add a player manually or read from file?
   1. Manually
   2. Use default file
   Enter a choice:
   ```

   - **Enter "2" – use the default data file "RB_stats_2015.txt"**
   - **Return to the main menu**

5. Find data
    - **Enter "3"**
    - **Type in: "Devonta Freeman"**

    - Output should show as follows:

```
Please enter the name of the player: Devonta Freeman
Name               tm  GP  RuA RuY   Rutd tar Rc  RcY RcTD pts     p/g
Devonta Freeman    ATL 15  264 1061    11  97  73  578  3   247.9   16.5

Press any key to continue . . .
```

    - **Return to main menu**

6. List hash sequence
    - **Enter "4"**

    - Output should show hashTable contents:

```
1.1: Duke Johnson          CLE        103.3      6.5
1.2: James Starks          GB         129.3      8.1

2.1: Chris Ivory           NYJ        176.7      11.8
2.2: Eddie Lacy            GB         124.6      8.3
2.3: Giovani Bernard       CIN        132.2      8.3
2.4: Jeremy Hill           CIN        159.3      10

3.1: Jonathan Stewart      CAR        150.8      11.6
3.2: LeSean McCoy          BUF        148.7      12.4
3.3: T.J. Yeldon           JAC        119.9      10

6.1: Antonio Andrews       TEN        87.4       6.2
6.2: DeMarco Murray        PHI        144.1      9.6
6.3: Devonta Freeman       ATL        247.9      16.5
6.4: Latavius Murray       OAK        165.8      10.4
6.5: Rashad Jennings       NYG        139.9      8.7
```
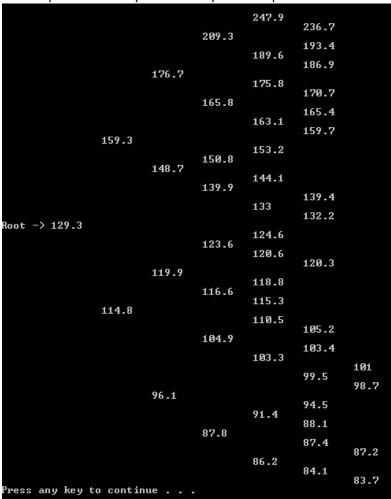
    *Only shows a portion of the screen here
    *Note that each slot is maintained alphabetically in sorted order

    - **Return to main menu**

7. List sorted data
    - **Enter "5"**
    - **Enter "1", "2", or "3"**

    - Output is sorted alphabetically or numerically in descending order depending on choice

```
Name               tm  GP  RuA RuY   Rutd tar Rc  RcY RcTD pts     p/g
Devonta Freeman    ATL 15  264 1061    11  97  73  578  3   247.9   16.5
Adrian Peterson    MIN 16  327 1485    11  36  30  222  0   236.7   14.8
Doug Martin        TB  16  288 1402     6  44  33  271  1   209.3   13.1
DeAngelo Williams  PIT 16  200 907     11  47  40  367  0   193.4   12.1
Todd Gurley        STL 13  229 1108    10  26  21  188  0   189.6   14.6
Lamar Miller       MIA 16  194 872      8  57  47  397  2   186.9   11.7
Chris Ivory        NYJ 15  247 1070     7  37  30  217  1   176.7   11.8
David Johnson      ARI 16  125 581      8  57  36  457  4   175.8   11
Matt Forte         CHI 13  218 898      4  58  44  389  3   170.7   13.1
Latavius Murray    OAK 16  267 1066     6  53  41  232  0   165.8   10.4
Frank Gore         IND 16  260 967      6  58  34  267  1   165.4   10.3
Danny Woodhead     SD  16  97  335      3 107  81  756  6   163.1   10.2
Darren McFadden    DAL 16  239 1089     3  53  40  328  0   159.7   10
Jeremy Hill        CIN 16  223 794     11  19  15  79   1   159.3   10
Mark Ingram        NO  12  165 767      6  60  50  405  0   153.2   12.8
Jonathan Stewart   CAR 13  242 989      6  21  16  99   1   150.8   11.6
LeSean McCoy       BUF 12  203 895      3  49  32  292  2   148.7   12.4
DeMarco Murray     PHI 15  194 699      6  55  44  322  1   144.1   9.6
Rashad Jennings    NYG 16  195 863      3  39  29  296  1   139.9   8.7
Ronnie Hillman     DEN 16  207 863      7  35  24  111  0   139.4   8.7
```

- **Return to main menu**
8. List indented tree
    - **Enter "6"**
    - **Enter "1", "2", or "3"**

    - Output is sorted by whatever option and prints a horizontal indented AVL

```
                                                    247.9
                                                          236.7
                                        209.3
                                                          193.4
                                              189.6
                                                          186.9
                            176.7
                                              175.8
                                                          170.7
                                        165.8
                                                          165.4
                                              163.1
                                                          159.7
                159.3
                                              153.2
                                        150.8
                            148.7
                                              144.1
                                        139.9
                                                          139.4
                                              133
                                                          132.2
Root -> 129.3
                                              124.6
                                        123.6
                                              120.6
                                                          120.3
                            119.9
                                              118.8
                                        116.6
                                              115.3
                114.8
                                              110.5
                                                          105.2
                                        104.9
                                                          103.4
                                              103.3
                                                                101
                                                    99.5
                                                                98.7
                            96.1
                                                    94.5
                                        91.4
                                                    88.1
                                        87.8
                                                    87.4
                                                                87.2
                                              86.2
                                                    84.1
                                                                83.7
Press any key to continue . . .
```

    - **Return to Menu**

9. Delete Data
    - **Enter "2"**
    - **Enter "Devonta Freeman"**
    - **Return to main menu**

    - **Try finding him (step 5)**
    - **List sorted data by points (step 7)**
    - **Print indented tree by points (step 8)**

10. Add "Devonta Freeman" manually
    - **Enter "1"**

- Enter "1"
- **Manually enter the following stats for Devonta Freeman**

```
Please enter the name of the player: Devonta Freeman
Name                tm  GP  RuA  RuY    Rutd tar  Rc   RcY  RcTD pts     p/g
Devonta Freeman     ATL 15  264 1061     11   97   73   578  3    247.9   16.5

Press any key to continue . . .
```

- **Try finding him (step 5)**
- **List sorted data by points (step 7)**
- **Print indented tree by points (step 8)**

11. Add "Latavius Murray" manually to show collision resolution

   - **List hash table data**
   - **Note: Latavius Murray and Devonta Freeman are on the same table index (6)**

   - **Return to main menu**
   - **Enter "1"**
   - **Enter "1"**
   - **Manually enter the following stats for "Latavius Murray"**

```
Please enter the name of the player: Latavius Murray
Name                tm  GP  RuA  RuY    Rutd tar  Rc   RcY  RcTD pts     p/g
Latavius Murray     OAK 16  267 1066     6    53   41   232  0    165.8   10.4

Press any key to continue . . .
```

   - **List hash table data (6)**

12. Delete "Latavius Murray"
   - **Utilize same steps in step 9 but with "Latavius Murray"**

13. Compare two players
   - **At main menu, select "compare"**
   - **Enter "Latavius Murray"**
   - **Enter "Devonta Freeman"**

```
Name                tm  GP  RuA  RuY    Rutd tar  Rc   RcY  RcTD pts     p/g
Latavius Murray     OAK 16  267 1066     6    53   41   232  0    165.8   10.4
Devonta Freeman     ATL 15  245 1503     78   45   15   31   25   247.5   16.5
Press any key to continue . . .
```

14. Print efficiency
   - Select print efficiency option from menu

15. Exit
   - Exit the program – program automatically saves to the same file