# Race Track Teller

## Documentation

This project (upon completion) allows one to serve as a teller for taking bets on horse races. The user should be somebody who wants to take bets from gamblers. It will allow the user to record bets for various bettors. It will enable the user to cash customers out and to be able to show the history of bets on races and for the bettors.

The user is prompted to enter the number of races. Then the user is prompted for the number of horses for each race. There are four main frames for the user to use: Place Bets, Race Results, Cash Out, and History.

Place Bets
Here the user can enter new bettors. To enter a bet, the user needs to pick a bettor, a race number, enter the amount of the individual bets, the type of bet, and select the horses from the appropriate positions (at most 4 positions). Note that more than one horse can be selected for each position. The program will "throw away" impossible bets (such as a 3 in the first and second position on an exacta). They can select the Get Totals button to see how many actual bets have been placed and to see the cost of the bet. To make the bet, the user can hit the Make Bet button.

Race Results
Here the user can enter the results of a race. They need to select the race number, enter the top four finishing horses, and enter the payouts for the race. Once done, they can hit the Enter Results button.

Note: The Enter Results button is shown, but its functionality has not been completed. Once that is complete, the program should allow the user to see who won, and how much, in the next sections.

Cash Out
This section is not done (that is an understatement). It would allow the user to cash out customers. When a customer arrives, the user would be able to enter the customer's name and see all of their unpaid winning bets. The user would be able to update this information so that the bet is deemed paid.

History
I ran out of time for this section also. It would allow the user to see various information on all bets for either a bettor, a particular race, or for the whole session. This would allow a bettor to find out how many bets they have made, how much they have won and profited.

## Data Plan

There are three files: raceTrackTeller.py, raceClass.py, and betClass.py. The TrackTeller.py file is the main file and builds the GUI. The main app in raceTrackTeller accumulates all of the bets.

The main data focus is in the betClass.py. There the Bet class is defined. Upon instantiation, this class requires a bettor, a race number, amount of bet, type of bet, and the horses selected. The horses selected are expected to be a list or a list of lists. The number of lists depends on the type of bet. For win, place, show, exacta box, trifecta box, and superfecta box, a list is simply expected (upon reflection, maybe it should have been a list of lists also -- something to think about). For exacta, trifecta, and superfecta bets, the expected number of lists are 2, 3, and 4. Also in this file we take the given horses selected and form tuples of all realistic bets. This allows us to count that

list to determine if the bet is a winner (once the race results are given). We can also compute the winnings from the bet (if it is a winner - otherwise the winnings are $0).

The file raceClass.py has the Race class. It expects a number of races and a list of number of horses in each race. It has an attribute for the top four horses and for the payouts. These would be used to check if a bet is a winner and what the winnings are. I did not get to use this class yet. The unfinished part of the project will use this a lot.

# Visual Layout

I am attaching two sheets which have sketches of the first two frames in the GUI.

# Future

There are several unfinished components. Some of the not so obvious ideas are entering names of days/sessions, dates, and be able to save sessions. Also, it could allow the user to have a balance kept (assuming deposits were made). We might want to edit bets and race results, delete names, import number of races and horses from a file, and webscrape websites for grabbing winners and payouts of races.