

QuickKetchup Guide for the NSFL

As promised, I am releasing the secret sauce that Nunc and I have used since day 1 in GMing in Tijuana, a little Python script we call QuickKetchup (name credit goes to Nunc). This write-up will include both how to setup and use QuickKetchup as well as some of my strategy testing tips. A lot of this will be really simple, but I am going to try to make this as detailed as possible to help out new GMs who have not tested strategies using Draft Day before. I also have no idea what the programming/scripting backgrounds of others are. So, again, I am going to probably be way more detailed than needed. If you have any questions, feel free to reach out to me on Discord.

Quick Setup:

1. Install Python 2 or 3, I recommend 3 and using Anaconda:
<https://www.anaconda.com/distribution/>
2. Any autoclicker you want, but I have a simple one I use on my github:
<https://github.com/BenjaminDHorne/QuickKetchup>
3. QuickKetchup, use QuickKetchup.py if you have Python 2 and use QuickKetchup3.py if you have Python 3: <https://github.com/BenjaminDHorne/QuickKetchup>
4. Draft Day Sports: Pro Football 2016
5. Optional: Python IDE of your choice. I like PyCharm, the free version will do you just fine:
<https://www.jetbrains.com/pycharm/>

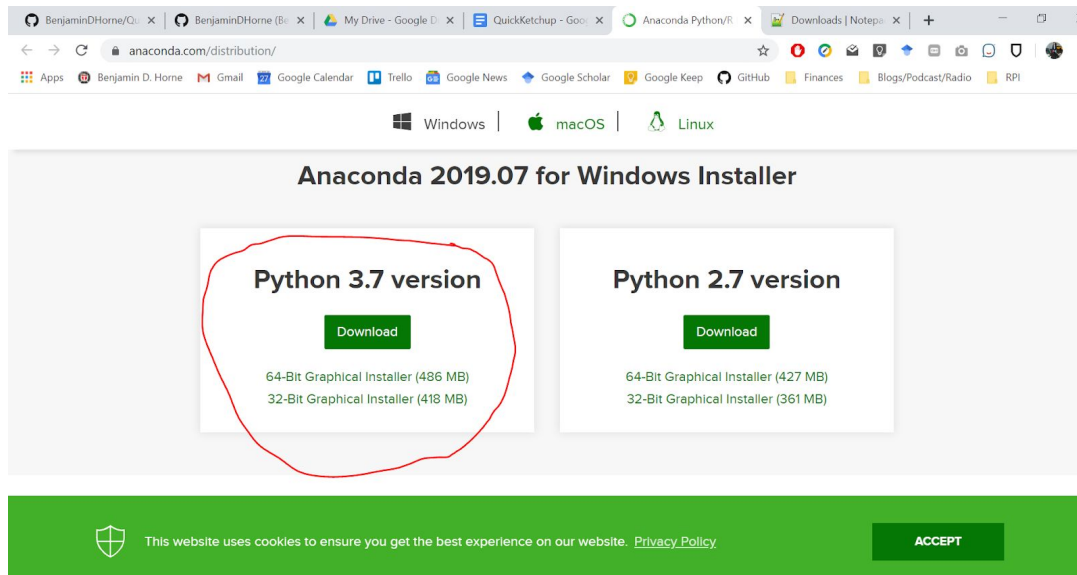
You will notice I have some libraries and things commented out in QuickKetchup. To make it fast and easy for everyone to set up, I removed all outside dependencies, but if you want to look at things like standard deviation, you can install numpy or write the formula yourself. The important things are there without using any libraries.

Detailed Setup:

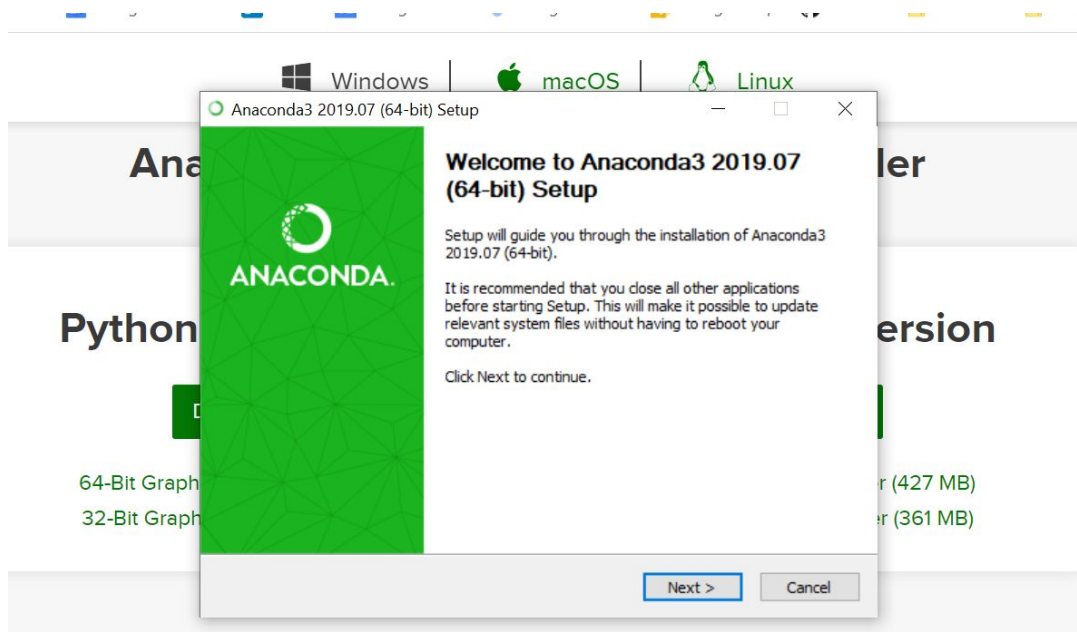
I will go through a detailed setup with screenshots here. In this write up I will be using Windows and will setup Python 3 using Anaconda. If you are a regular Python user, you can use whatever distribution you have or download Python without Anaconda. I will also assume you have Draft Day Sports: Pro Football 2016 already installed.

Step 1: Download Python 3 using Anaconda.

Go to <https://www.anaconda.com/distribution/>, scroll down, click download on the Python 3.7 version.



Click the .exe file that downloads and follow the prompts for installation. It should be straightforward, just keep all default settings.



Step 2: Download QuickKetchup and Autoclicker.

Go to <https://github.com/BenjaminDHome/QuickKetchup>, click Clone or Download, then Download ZIP. If you are a regular Git user, just clone or fork the repo.

Automated method for testing strategies in Draft Day Sports: Pro Football 2016. Primary used in the NSFL
(<http://nsfljcinck.net/index.php>).

Manage topics

6 commits 1 branch 0 releases 1 contributor

Branch: master New pull request

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BenjaminDHorne added py2 and py3 versions

File	Commit
AutoClickers.exe	Autoclicker
QuickKetchup.py	added py2 and py3 versions
QuickKetchup3.py	added py2 and py3 versions
README.md	Initial commit

README.md

QuickKetchup

Unzip the ZIP file and move it to DDSPPF folder of Draft Day Sports. You can really put it anywhere, but I find it much easier having the code all together with Draft Day. Each time you want to run the Autoclicker or QuickKetchup, you can just go to this folder and open either file.

DDSPPF

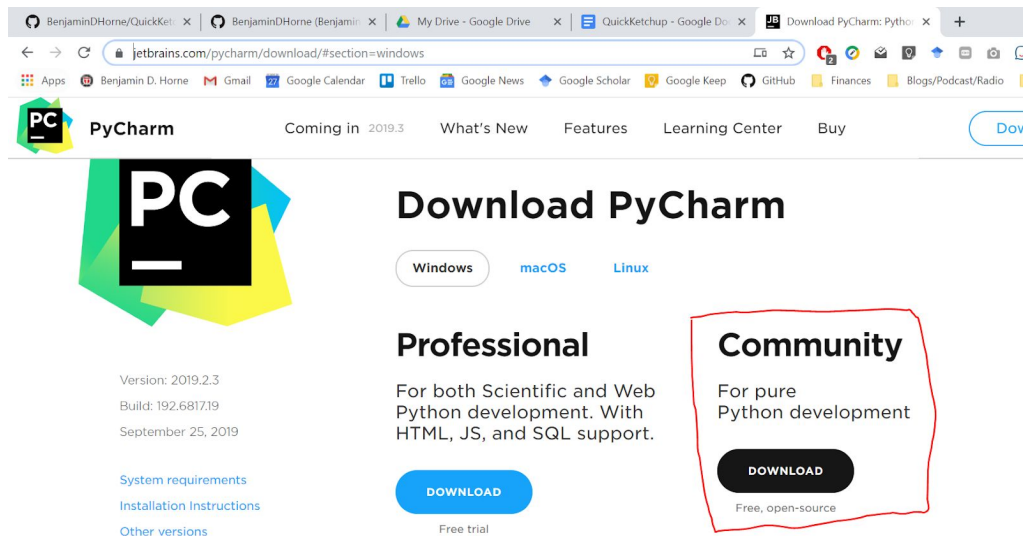
Name	Status	Date modified	Type	Size
Leagues		9/19/2019 2:30 PM	File folder	
QuickKetchup-master		10/6/2019 2:18 PM	File folder	
DDSPPLog.txt		9/24/2019 4:25 PM	Text Document	1 KB

QuickKetchup-master

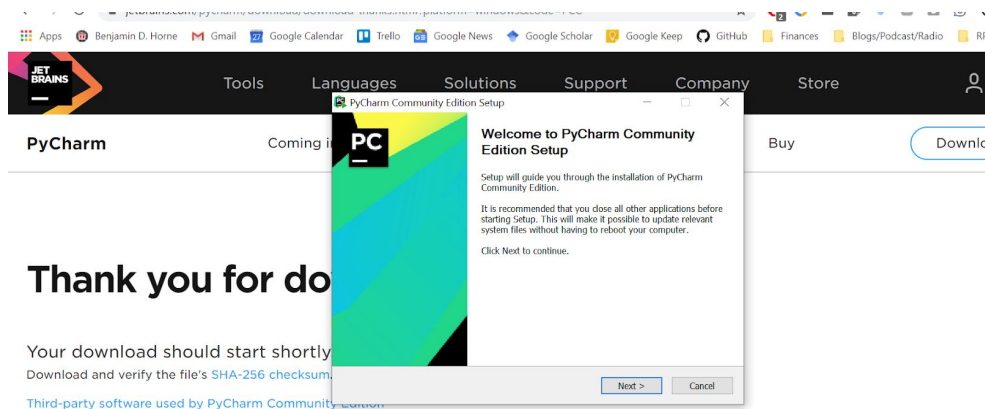
Name	Status	Date modified	Type	Size
AutoClickers.exe		10/5/2019 4:52 PM	Application	940 KB
QuickKetchup.py		10/5/2019 4:52 PM	JetBrains PyCharm C...	8 KB
QuickKetchup3.py		10/5/2019 4:52 PM	JetBrains PyCharm C...	8 KB
README.md		10/5/2019 4:52 PM	MD File	1 KB

Optional Step 5: Install PyCharm for running QuickKetchup.

Go to <https://www.jetbrains.com/pycharm/> and click the big download button, or go to <https://www.jetbrains.com/pycharm/download/#section=windows> and click download under Community.



Click the .exe file you downloaded, and follow the prompts for installation. Again it should be pretty straightforward. Just keep the default settings.



Getting Started

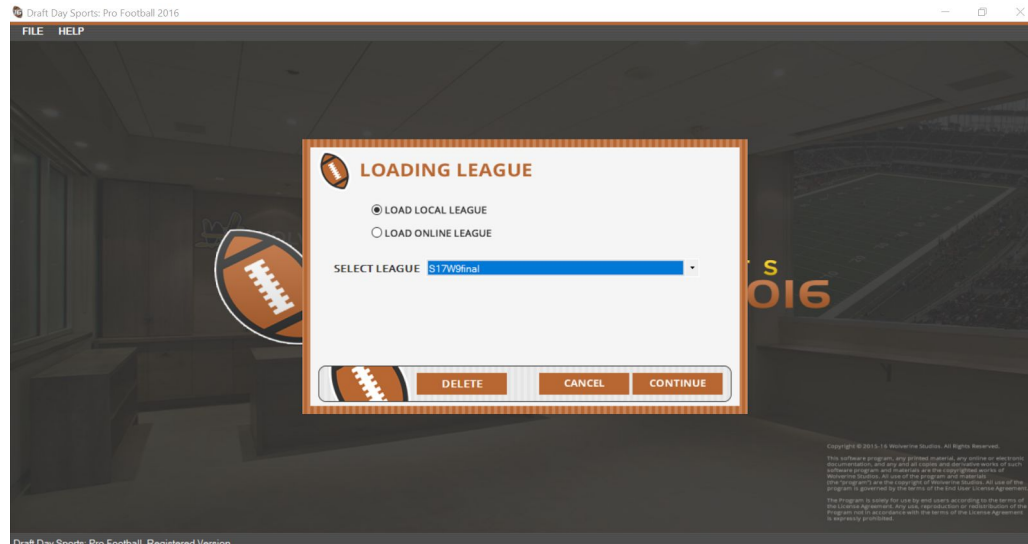
New to PyCharm?

With this you should be ready to go!

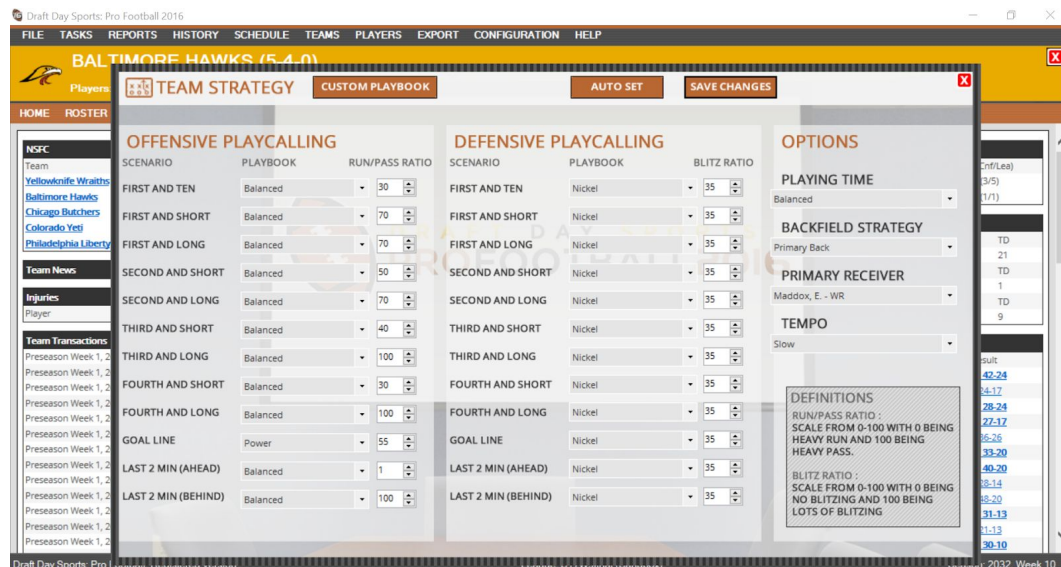
Use Overview:

I will discuss the really high-level overview of how to use QuickKetchup here, I will discuss more strategy oriented things after.

First, open up Draft Day Sports and select the league file you want to test with:

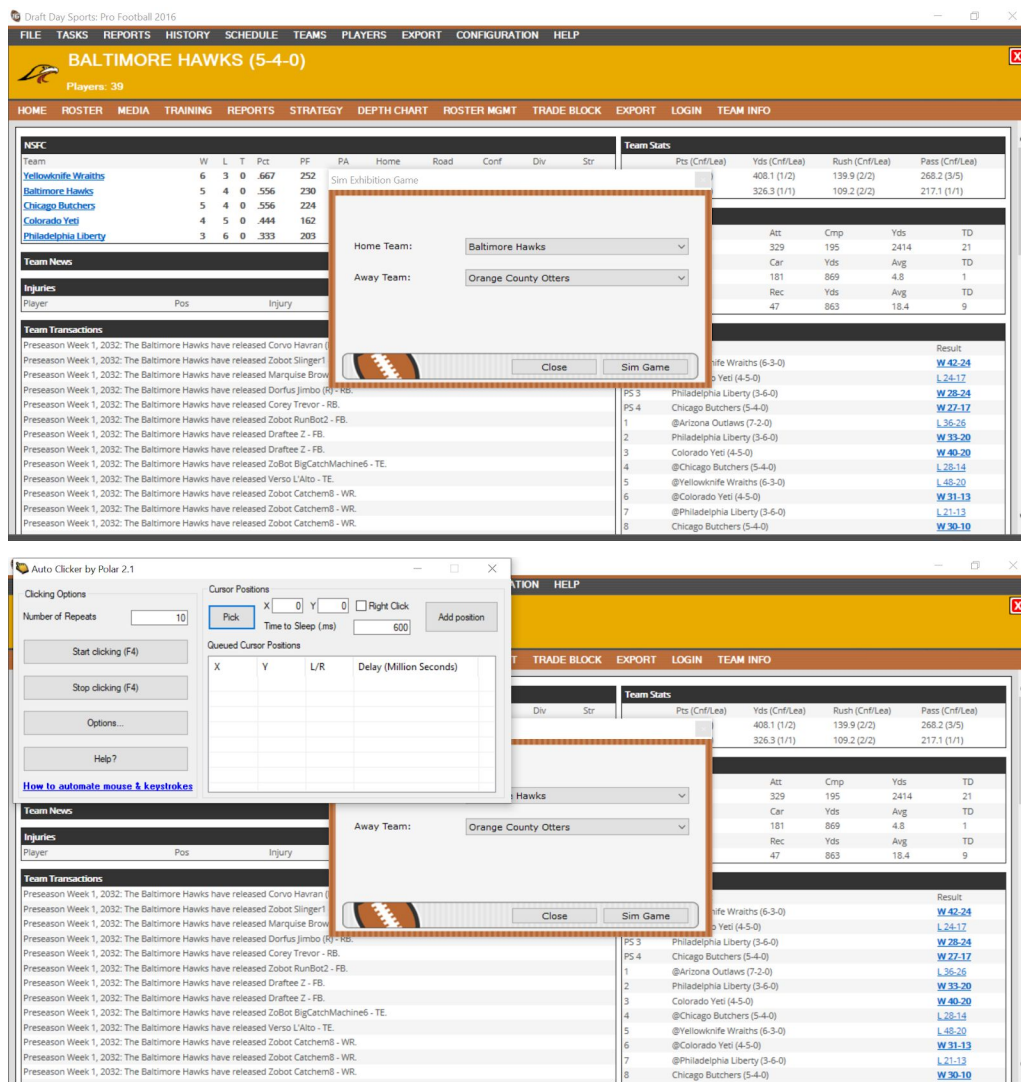


Next, choose your team from the top menu, then open up your strategy panel from the lower menu:



Now you are ready to choose your strategy. Many GMs have different ways of approaching building a strategy. I will talk about how I choose strategies after the overview section. For now you can just keep whatever strategy is already set.

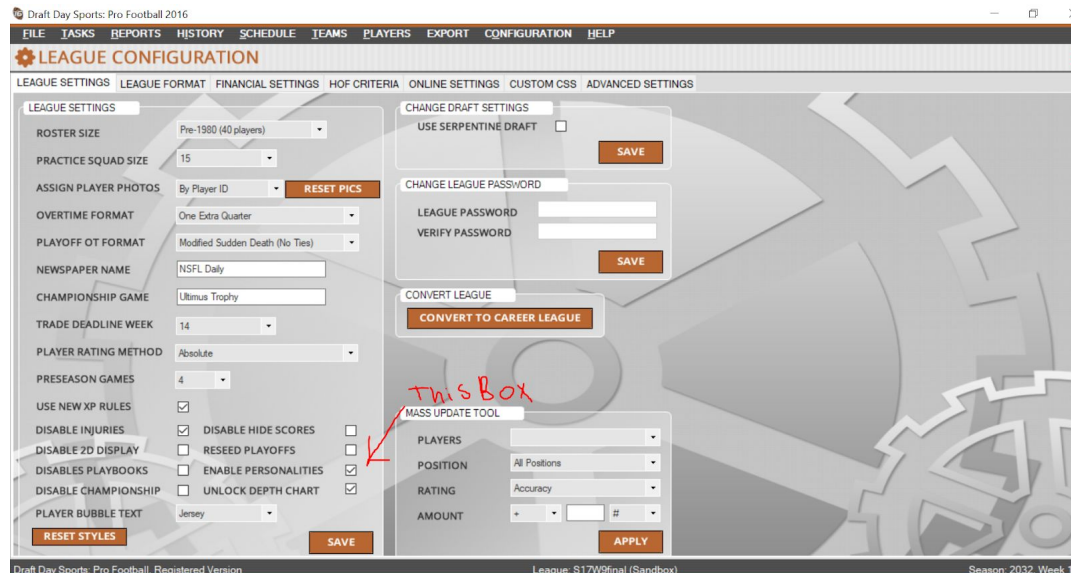
Once you have exited the strategy window, you can select *Tasks > Sim Exhibition Game* from the top menu. While you are at it, also open up your autoclicker of choice. If you are using the autoclicker I provided, just double click the .exe file.



With the autoclicker, click Pick, click the Sim Game button, and click Add position. Then do the same thing on the X of the game popup window. Now put in the number of times you want to test the strategy in the Number of Requests box. I recommend 300 requests because the win percentage numbers roughly stabilize after 300 sims (ask spec). I will discuss this more in the strategy tips section. Once you have done this, click “Start clicking.” Now, you wait and watch football or play Madden because you can’t use your computer for a couple minutes. If you want to stop it for some reason, you can press F4.

Once the clicker stops clicking, you can export the results. BUT before you do this, you must go to *Configuration* in the top menu and check the *Enable Personalities* box. Once this is checked, go to *Export > Generate Assess/CSV Files*. **Very Important:** uncheck the Enable Personalities

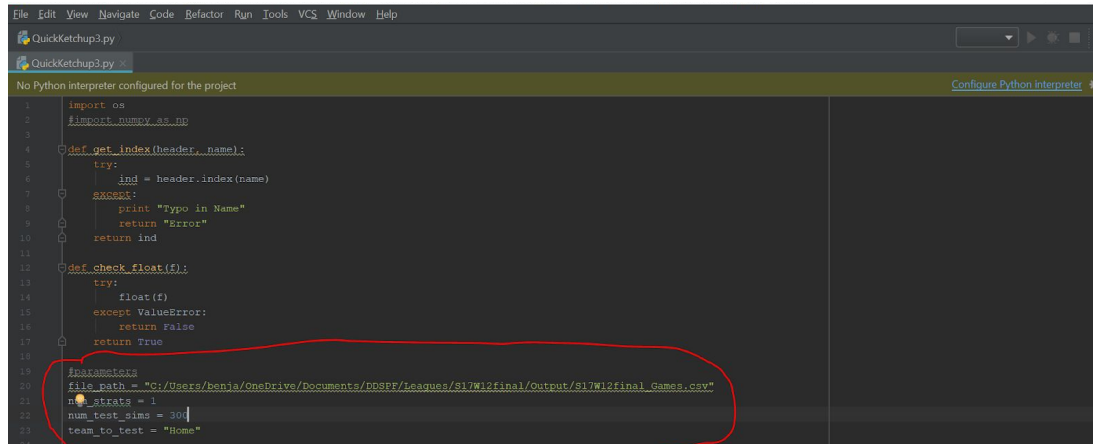
box after you export. If you run your sims with this box checked, it will do weird things to your data, because we do not use personalities in the NSFL. Thus, players have some random personality value which can impact how well they play. After the first time you export the file in the session, you do not have to check the box again. But you will have to do this in each new session.



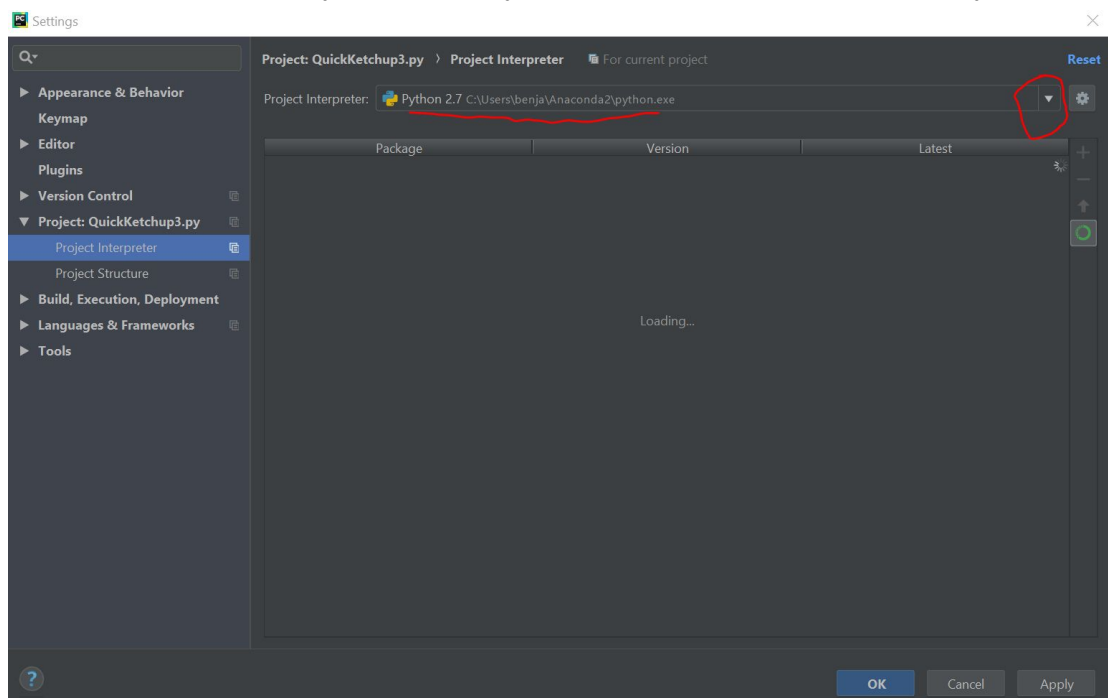
Now that your strategy results are exported, open up QuickKetchup.py (or QuickKetchup3.py) with your favorite IDE (PyCharm) or a text editor if you didn't download PyCharm (Notepad++ will do: <https://notepad-plus-plus.org/downloads/>). There are 4 parameters that you need to change (I should make these into command line arguments, but I haven't yet): *file_path*, *num_strats*, *num_test_sims*, and *team_to_test*.

- *File_path* - path to league file, which should be `\\DDSPF\\Leagues\\nameoftestfile\\Output\\nameoftestfile_Games.csv`. If you are on Windows, you will need to flip your slashes from `\` to `/` when writing the path (see picture below).
- *Num_strats* - number of strategies you have tried. Depending on the number of test sims you run, this can be at most around 5. I will discuss this in the tips section.
- *Num_test_sims* - number of trials you tested your strategy with (what you put into the autoclicker).
- *Team_to_test* - if you are the home team or the away team.

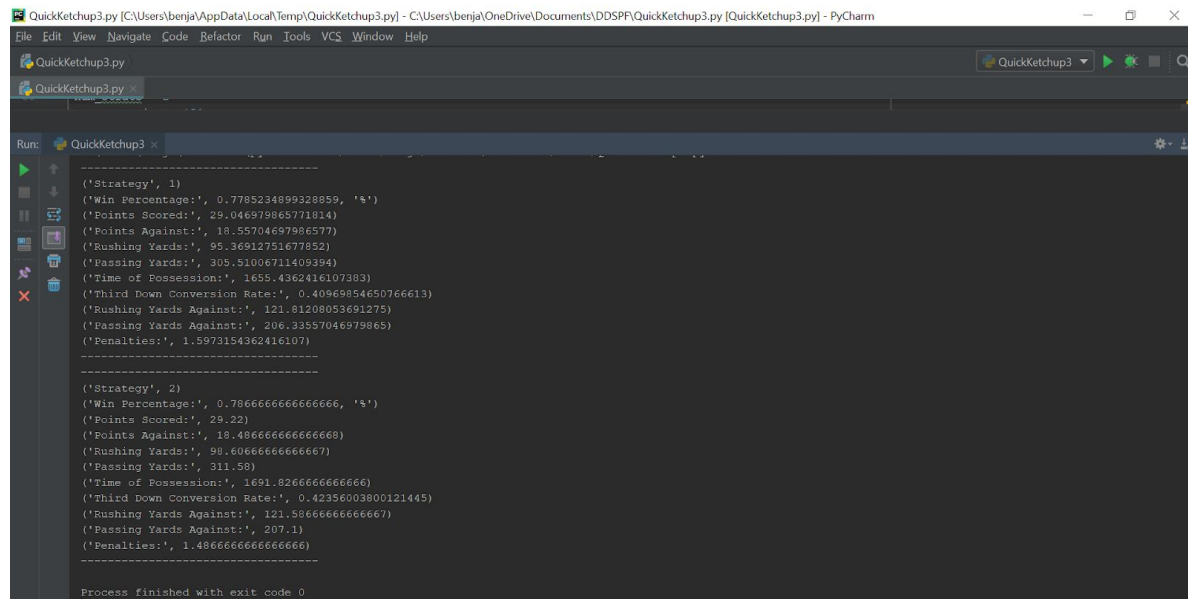
These parameters start on line 19. They are the only things you have to change in the code.



If you are using PyCharm, you may have to “Configure Python interpreter”. If this is the case it will look like the following: a yellow bar will pop up in your pycharm window (see above). Click the Configure Python interpreter link on the right hand side. From here you will see a drop down menu, select whatever python version you installed (see below). Click Apply, then click okay.



Once this is done you can run the code by clicking *Run > run* from the top menu. The output of 2 different strategies in PyCharm will look like this:

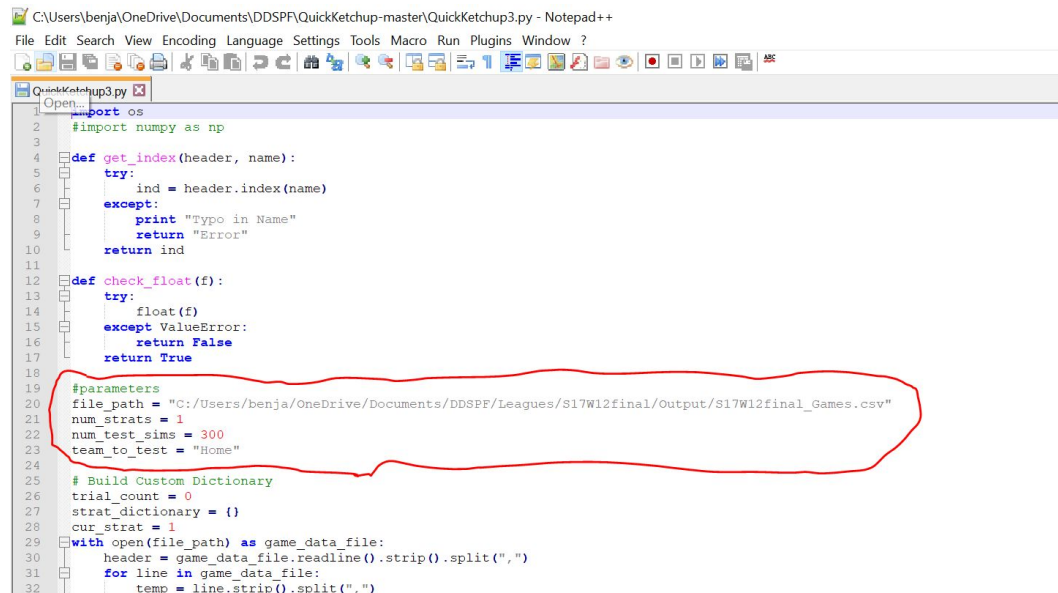


```
-----
('Strategy', 1)
('Win Percentage:', 0.7785234899328859, '%')
('Points Scored:', 29.046979865771814)
('Points Against:', 18.55704697986577)
('Rushing Yards:', 95.36912751677852)
('Passing Yards:', 305.51006711409394)
('Time of Possession:', 1655.4362416107383)
('Third Down Conversion Rate:', 0.40969854650766613)
('Rushing Yards Against:', 121.81208053691275)
('Passing Yards Against:', 206.3357046979865)
('Penalties:', 1.5973154362416107)
-----

('Strategy', 2)
('Win Percentage:', 0.7866666666666666, '%')
('Points Scored:', 29.22)
('Points Against:', 18.486666666666668)
('Rushing Yards:', 98.60666666666667)
('Passing Yards:', 311.58)
('Time of Possession:', 1691.8266666666666)
('Third Down Conversion Rate:', 0.42356003800121445)
('Rushing Yards Against:', 121.58666666666667)
('Passing Yards Against:', 207.1)
('Penalties:', 1.4866666666666666)
-----

Process finished with exit code 0
```

If you choose to use a text editor like Notepad++ instead it will look like this:



```
1 import os
2 #import numpy as np
3
4 def get_index(header, name):
5     try:
6         ind = header.index(name)
7     except:
8         print "Typo in Name"
9         return "Error"
10    return ind
11
12 def check_float(f):
13    try:
14        float(f)
15    except ValueError:
16        return False
17    return True
18
19 #parameters
20 file_path = "C:/Users/benja/OneDrive/Documents/DDSPF/Leagues/S17W12final/Output/S17W12final_Games.csv"
21 num_strats = 1
22 num_test_sims = 300
23 team_to_test = "Home"
24
25 # Build Custom Dictionary
26 trial_count = 0
27 strat_dictionary = {}
28 cur_strat = 1
29 with open(file_path) as game_data_file:
30     header = game_data_file.readline().strip().split(",")
31     for line in game_data_file:
32         temp = line.strip().split(",")
```

You can simply edit it in a text editor and run the code using the terminal (called Command Prompt in Windows). To run in the command prompt use the following commands:

```
chdir path_to_the_code
Path_to_anaconda/python.exe QuickKetchup.py
```

Here is an example:

```
C:\ Command Prompt
Microsoft Windows [Version 10.0.18362.388]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\benja>chdir C:\Users\benja\OneDrive\Documents\DDSPF

C:\Users\benja\OneDrive\Documents\DDSPF>C:\Users\benja\Anaconda2\python.exe QuickKetchup.py
-----
Strategy 1
Win Percentage: 0.782608695652 %
Points Scored: 29.1337792642
Points Against: 18.5217391304
Rushing Yards: 96.9933110368
Passing Yards: 308.555183946
Time of Possession: 1673.69230769
Third Down Conversion Rate: 0.416652472006
Rushing Yards Against: 121.698996656
Passing Yards Against: 206.719063545
Penalties: 1.54180602007
-----

C:\Users\benja\OneDrive\Documents\DDSPF>
```

Okay, now that you have run the code with either PyCharm or Command Prompt, you will see the results. The output is pretty self-explanatory. The most important stat is the Win Percentage. An example of 1 strategy output in the command prompt is above.

Now you simply repeat until you find your best strategy.

Quick Use Overview:

If you downloaded PyCharm:

1. Choose base strategy
2. Run autoclicker 300 times
3. Go to configure, check enable personalities
4. Go to export > *Generate Assess/CSV Files*
5. Uncheck enable personalities
6. Open up QuickKetchup.py in PyCharm, change parameters, click run
7. Make small change in strategy, and Repeat

If you did not download PyCharm:

1. Choose base strategy
2. Run autoclicker 300 times
3. Go to configure, check enable personalities
4. Go to export > *Generate Assess/CSV Files*
5. Uncheck enable personalities
6. Open up QuickKetchup.py in Text Editor, change parameters, save

7. Open up a Command Prompt, change directory to where QuickKetchup is, Run QuickKetchup by typing *Path_to_anaconda/python.exe QuickKetchup.py*, (it will look something like this: C/Users/ben/Anaconda2/python.exe QuickKetchup.py)
8. Make small change in strategy, and Repeat

Choosing Strategies and Other Tips for Success:

The way I recommend building a strategy, especially with QuickKetchup, is to take an experimental approach by changing only 1 variable at a time. I start with a baseline strategy, typically just whatever I used last week since it's already set. Run QuickKetchup for this baseline strat. This is now the win % you must beat. Go back to the strategy window, change one thing, like the run or pass ratio on first down, then try again. After a few tries you will quickly see which direction to go (run heavy or pass heavy) for your match up. You can then slowly move in that direction for each down until you cannot boost your win % anymore. **Note:** Draft day has tons of memory leak issues, so you can only do this 5 times (when using 150 trials) and 2 to 3 times (when using 300 trials) before the software crashes. So, I typically screenshot my current best strategy as I go, then when you have to reset the software, just enter your current best, and keep moving. You can repeat the same process when testing your Depth Chart. If you are unsure if you should play a guy at NB or at CB, you can test it. Simply keep the same strategy and opponent in your tests, and only change the players spot in the Depth Chart; Whichever gives you a better win % (or less points allowed, etc.) is your guy.

Another great use for QuickKetchup is testing out the value of trades. If you are unsure how much a player will help your team, make the trade in draft day and test it. So for example, when we made the trade for Sunnycursed in S17, I tested our team against 3 different opponents with and without Sunnycursed using the same exact strategy for each. You can then estimate the win boost you will get with that player, which will help you assign how much value you are willing to trade. Typically, Nunc and I only made a trade if the trade boosted our win % by over 5% on average. Importantly, the value of this boost depends on where your win % baseline is against teams. If we were getting say a 90% win against the hardest opponent in our division before the trade, a 5% boost is worth less than if we were getting say 55% against that same opponent.

Random things to keep in mind:

1. Remember, your opponent will likely change their strategy up as well. So, while you got an 85% against what they put in last week, you may actually have a 60% against what they put in this week. This is impossible to control for, but particularly in the playoffs, I recommend looking through your opponents old strategies in each week's sim file. This will give you an idea of how drastic the changes may be. A lot of times, teams are simply build for one type of strategy (think the Joliet Christ Sabercats and the spread), and so you know they will keep the basic offense the same. However, other teams, particularly in the DSFL, do a huge variety of things. To find your best strategy, test against a few of

the most common strategies they use, and pick the best strategy that works against those 2 or 3 strategies.

2. While you should test different defenses, in the NSFL (not necessarily the DSFL) the nickel with 35 blitz ratio is a great default. If you have limited time, focus on the offense. If you are testing defense, an important note, lower blitz is better against the run, higher blitz is better against the pass. While this doesn't always align with real life, in DDSPF16 it is true.
3. If you want a small boost in the passing game, check which side the slowest CB is lined up and put your primary (or fastest WR) against that CB. Most the time CBs don't switch sides, so you have a good chance to get the edge here. This is why, despite the lack of stats, having 2 high TPE 100 speed CBs on the outside is huge for win %.
4. Always test different Depth Charts after week 1. Never assume what you thought was going to work in your head is going to work. After week 1, you have a file with updated TPE levels and opponents Depth charts. See if what you set in preseason is actually good. Try different rotations, like balanced vs play mostly starters.
5. Have fun!