

Crunch-Platform:

Version: Embryo

For **Linux** installation please see the README.md at

www.github.com/ncdesouza/Crunch-Platform

Linux users may benefit from reading from page 10 – 14.

For **Windows** installation continue reading.

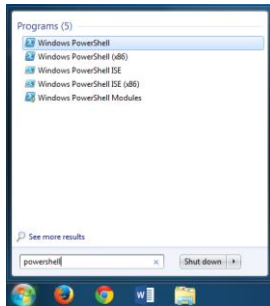
Don't be scared by the number of pages it's full of pictures.

There are bound to be bugs please send me any you find. Contact info is at the EOF.

Thanks

Installing Python:

From the start menu open **Powershell**. You can search for it in the start menu, then press **[Enter]**.



In the Powershell terminal type:

```
python
```

If 'python' is not recognized then you have to download it from:

<http://python.org/download>

Download Python 2.7.8

Install it on your system

After the installation is complete type **python** in **Powershell** again and if it is still not recognized then you will need to add it to your environment variable:

In **Powershell** enter:

```
[Environment]::SetEnvironmentVariable("Path", "$env:Path;C:\Python27", "User")
```

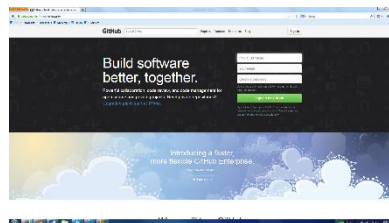
Once again try and type **python** in Powershell. If you still get an error reset your computer and check again. It will now work. If it does not, all I can say is **use Linux**.

Setting up GitHub:

You will need to go to:

<https://github.com/>

Register and apply for an account



Tip: If you use your student email you can later apply for a free student plan which includes access to private repositories and tonnes of developer tools.

Installing Git:

The reason for the use of git is so that any updates made to the client can be easily pulled to your computer without you having to copy and paste your code. I have set up the server to send a message to you if your client needs an update. I will explain more later. If you choose not to use git, your making your life a lot harder.

Download git for windows from:

<http://git-scm.com/downloads>



Set up and install git. I used the default settings.



Installing Python and Java IDE:

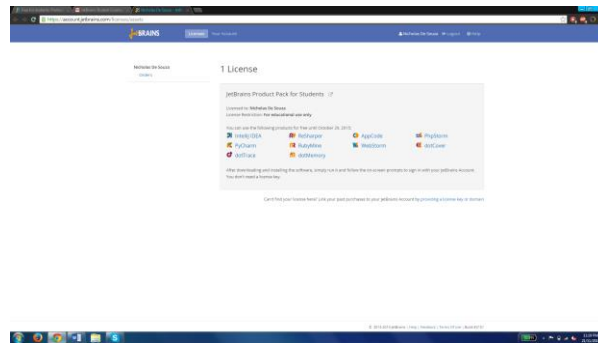
This is not required but will make running your project 10X easier. Also, seeing as though I strongly dislike windows this will be the only way I will provide assistance with running the application.

Go to <https://www.jetbrains.com/student/>

Click **apply now** and register using your school email.



You will receive an email with click the link to the downloads page.



Download PyCharm:

As a student you are able to download the Ultimate edition with a licence for 1 year.



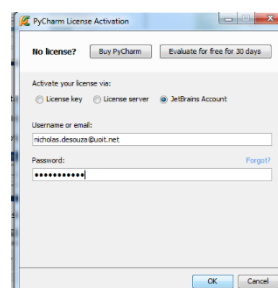
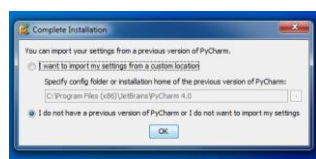
Go ahead and Install PyCharm on your system.

At the end of the installations click run now.

The following steps are the same for both PyCharm:

You will be prompted with this screen select I do not have a previous version and click **[OK]**.

You will then be asked to enter a licence. Select the option **Jetbrains Account**. Use your student email and password that you registered with and click **[OK]**



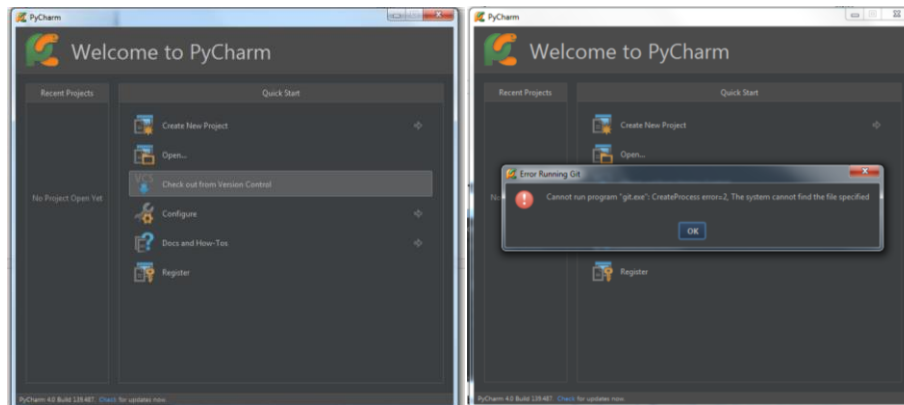
Configure your settings to your personal preference.

PyCharm should be installed on your system now

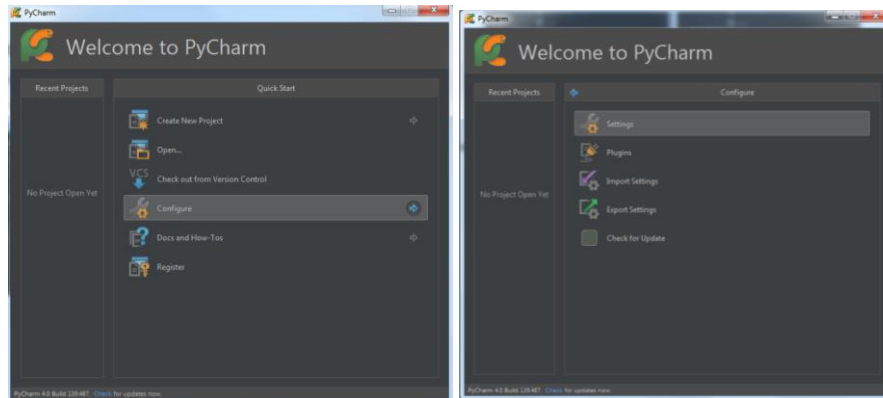
Setup the python client:

You may be able to clone the github repository right away. I had an error when I tried.

If you do not get an error message skip to the next section.

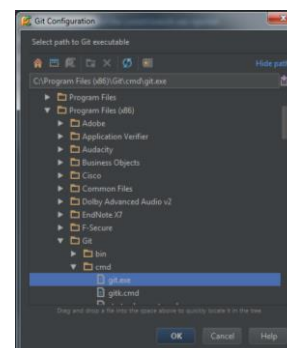
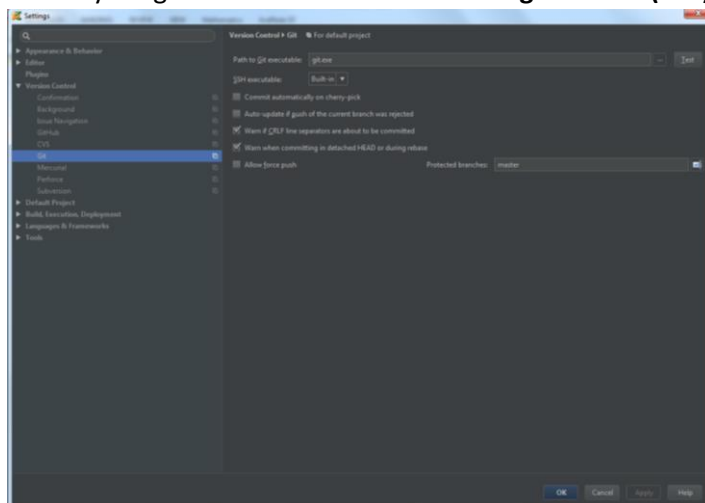


To deal with this error click **configure** and then **settings**:



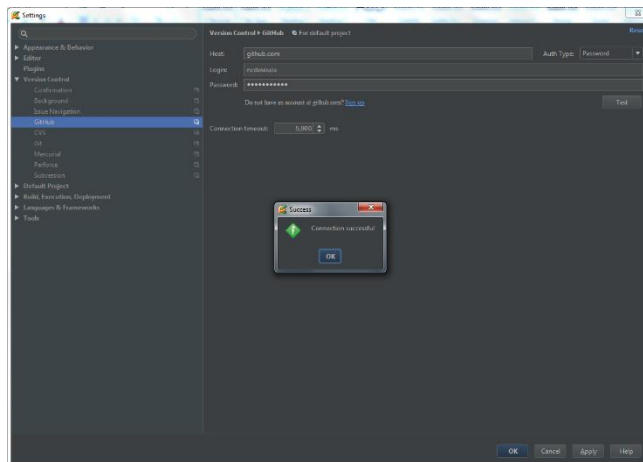
From there click **Version Control > Git** then click the [...] beside the path to git:

Locate your git.exe file. I found mine in **Program Files (x86) > Git > cmd > git.exe**

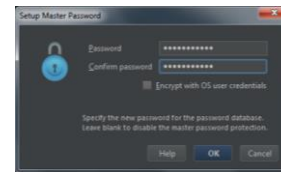


Click OK and then click Test.

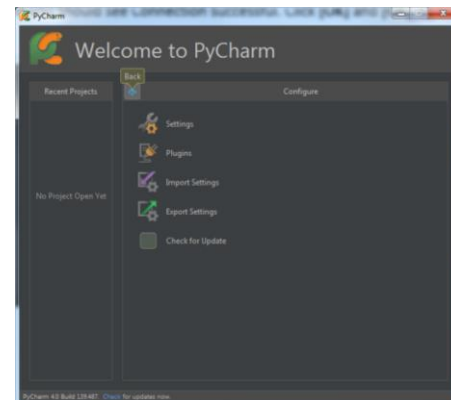
Next, inside settings go to **Version Control > GitHub** and enter the username and password you set up earlier. Click test and you should see Connection successful. Click **[OK]** and **[OK]** to exit the settings menu.



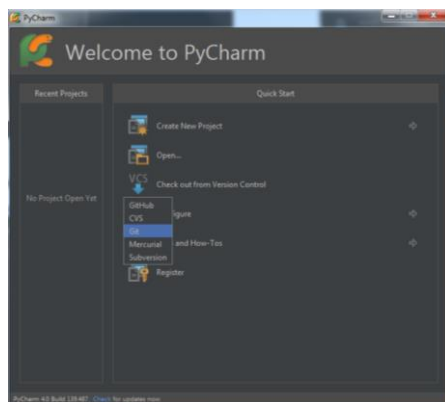
You may get prompted with the screen below. I used my GitHub password in these fields.



Click the **back** button to get to the main menu

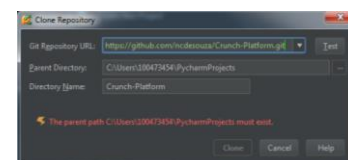


Back in the main menu click **VCS > Git**



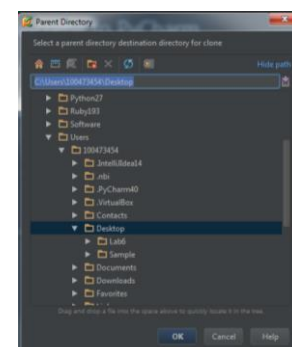
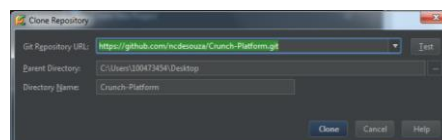
When the Git Repository window pops up enter:

<https://github.com/ncidesouza/Crunch-Platform.git>



You may receive an error message saying the parent path must exist. Click the [...] and set the directory you want your project to exist in. I choose desktop for simplicity.

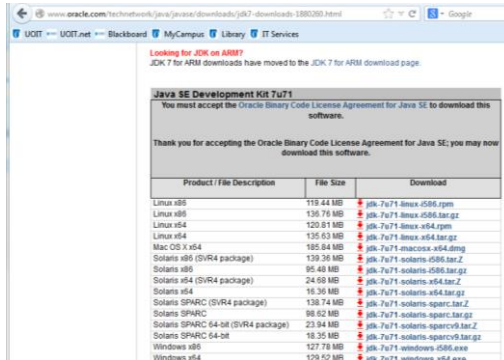
Finally click **[clone]** and on completion close PyCharm.



Installing Java Development Kit:

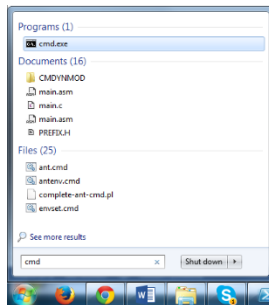
Go to:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>

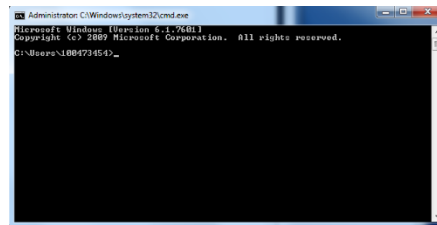


Click on the Windows x64 option, download and run the installer.

Now search type **cmd** in start menu and press enter.

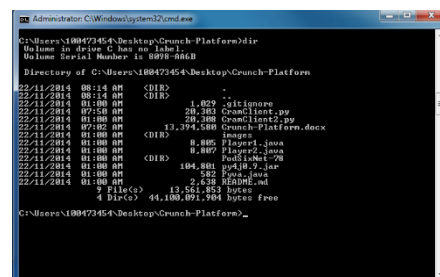


You should see the beautiful, amazing and extremely powerful Command line. And if you did not get my sarcasm there. Well there is not much else to say.



You need to set your java environment path. This is achieved by typing the following commands:

First navigate to the directory which you cloned Crunch-Platform. For me I chose Desktop:



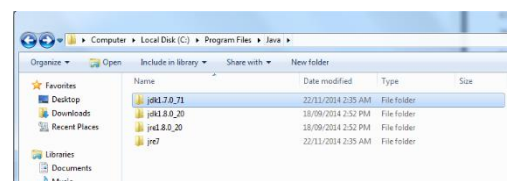
```
cd Desktop\Crunch-Platform
```

dir

Next is to set the path variable to point at your java installation. Enter the following cmd:

```
set path=%path%;C:\Program Files\Java\jdk1.7.0_71\bin
```

This may be different for you. I was able to find the right package my looking for it in Windows Explorer

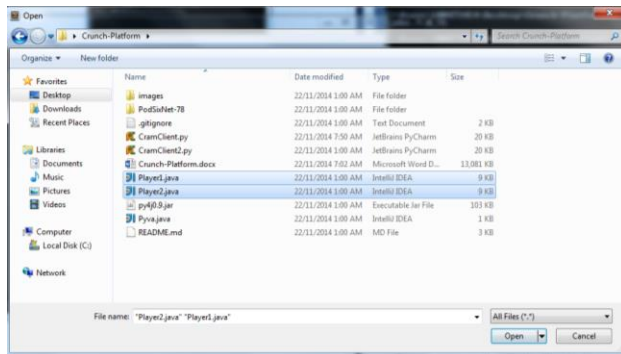


So now we are able to compile and run java. Leave **cmd open** we are going to be coming back to this very shortly.

Lets make some quick changes to the java files that we cloned earlier. Open your favourite text editor, IDE, basically anything that will let you make changes to the java program.

Open **Player1.java** and **Player2.java** which will be found in the Crunch-Platform Directory.

****Note these are the files that you will add your algorithm to.**



For now just change the team name variable in the constructor for both Player1.java and Player2.java.

*****Note please keep team names to 5 character max**

***** Player1.java and Player2.java must unique team names.**

Eg. Player1.java → teamname = "Nick"

Player2.java → teamname = "Nick1"

```
1 import java.util.Scanner;
2 import java.util.Random;
3 import java.util.List;
4 import java.io.IOException;
5 import java.lang.String;
6
7 public class Player1 {
8
9     public static String teamname;
10    public static char boardMatrix[][] = new char[5][5];
11    public static String boardAsString;
12    public static String previousMove;
13    Scanner in = new Scanner(System.in);
14
15    /**
16     * Constructor
17     */
18    public Player1() {
19
20        // Set your team name here:
21        teamname = "Nick"; // <---Change this <---<
22
23        // Construct the BoardMatrix and
24        // StringBoard as free spaces
25        for (int i = 0; i < 5; i++) {
26            for (int j = 0; j < 5; j++) {
27                boardMatrix[i][j] = 'O';
28                // ?? for you string lovers...lol
29                boardAsString += 'O';
30            }
31        }
32
33        previousMove = null;
34    }
35}
```

```
1 import java.util.Scanner;
2 import java.util.Random;
3 import java.util.List;
4 import java.io.IOException;
5 import java.lang.String;
6
7 public class Player2 {
8
9     public static String teamname;
10    public static char boardMatrix[][] = new char[5][5];
11    public static String boardAsString;
12    public static String previousMove;
13    Scanner in = new Scanner(System.in);
14
15    /**
16     * Constructor
17     */
18    public Player2() {
19
20        // Set your team name here:
21        teamname = "Nick1";
22
23        // Construct the BoardMatrix and
24        // StringBoard as free spaces
25        for (int i = 0; i < 5; i++) {
26            for (int j = 0; j < 5; j++) {
27                boardMatrix[i][j] = 'O';
28                // ?? for you string lovers...lol
29                boardAsString += 'O';
30            }
31        }
32
33        previousMove = null;
34    }
35}
```

Save both files and **close** the text editor.

We are now going to compile the java sources. Go back to cmd window and type the following command:

```
javac Player1.java Player2.java
```

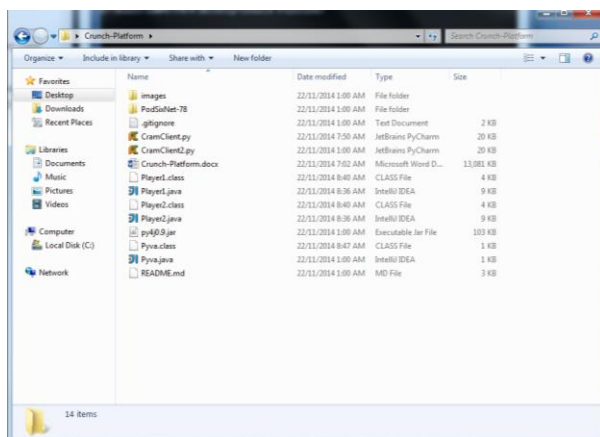
**Note: If you receive any errors like javac is not recognized as an internal or external command. Go back and check that you have set your path variable correctly.*

***Note: If you receive an error saying file does not exist check to make sure you are in the right directory.*

The next command looks weird but basically the extra arg (-classpath .\py4j0.9.jar;.) tells the java compiler where to find the dependencies for Pyva.java. In cmd line enter the following command:

```
javac -classpath .\py4j0.9.jar;. Pyva.java
```

If all has gone well. You will now see Player1.class, Player2.class and Pyva.class added to the Crunch-Platform directory.

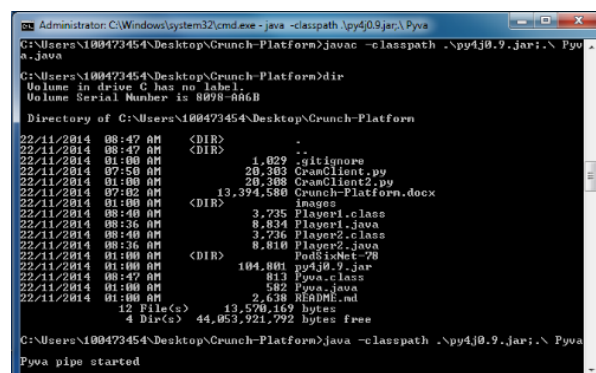


The last command that you will type is to open the gateway for python to communicate with your Java algorithms. This needs to be run before launching the python Cram Client and left open while you are connected the platform.

Enter the following command:

```
java -classpath .\py4j0.9.jar;. Pyva
```

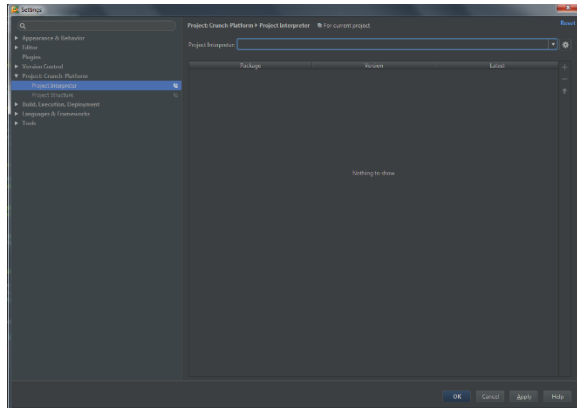
If you see the message **“Pyva pipe started”**, You are good to move on to the launching the client.



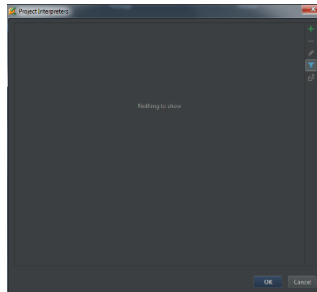
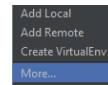
Launching CramClient.py:


Open **PyCharm**. It should open to the Crunch-Platform project folder. If it does not go to file > open and select the Crunch-Platform folder that was created during the cloning process.

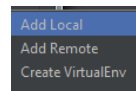
Click on **File > Settings** then locate **Project: Crunch-Platform > Project Interpreter**



Click on  and select **more**

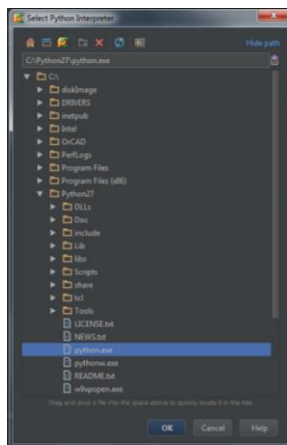


Click on the  and select **Add Local**



Locate and select the python interpreter we installed earlier.

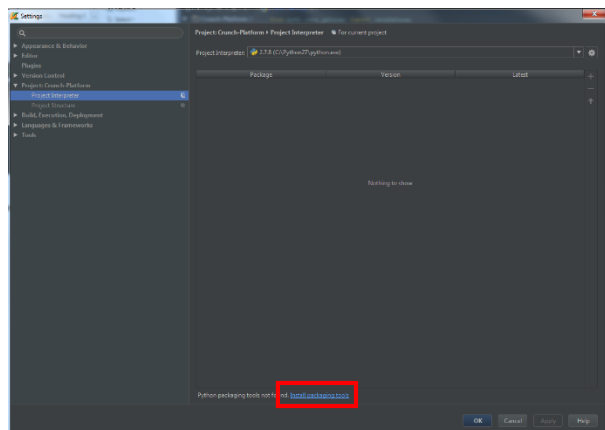
For me it was in **C:\ > Python27 > python.exe**



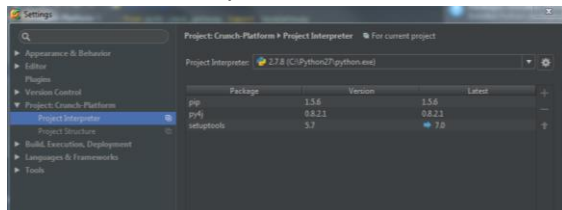
Click **[Ok]**

Your screen should now look like this:

***Click on the Install packaging tools located at the bottom of the screen**



You will see that PyCharm has installed most of the dependency packages needed to run the platform.



Unfortunately, we are on windows so there is still 2 more things to be done.

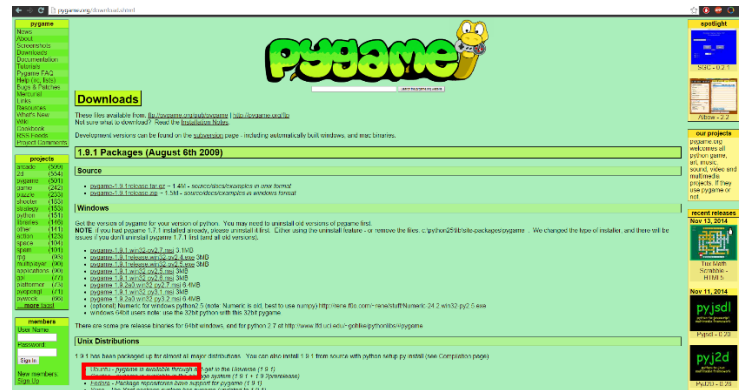
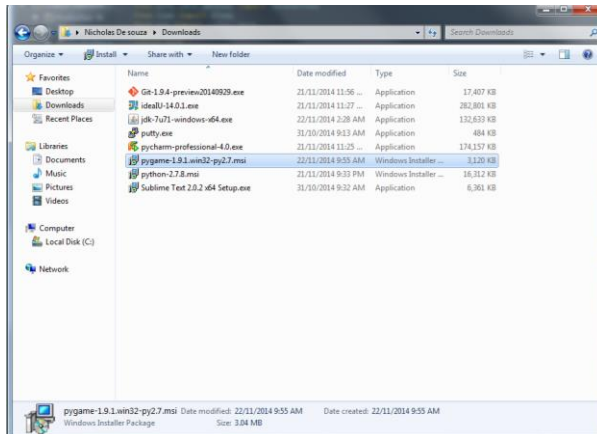
Go to:

<http://pygame.org/download.shtml>

Download the **pygame-1.9.1 win32-py2.7.msi**:

Find the file in your Downloads folder and

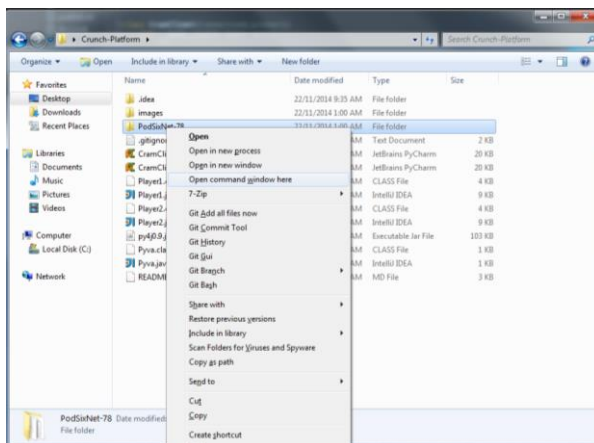
Double Click to install:



I used all the default settings when installing.

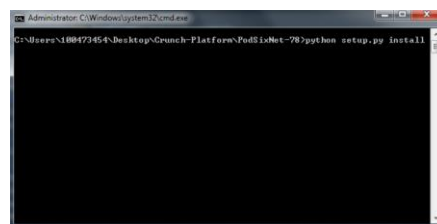
Lastly, **Open a Windows Explorer** and navigate to the **Crunch-Platform** directory.

You will see a folder called **PodSixNet-78** hold **shift** and **right click** the folder. Select **Open command window here**.



A new Command Window will spawn already pointing at the PodSixNet-78 directory. Enter the following command:

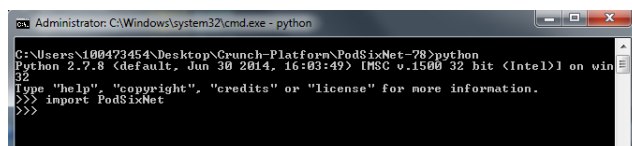
python setup.py install



Check to see if the installation worked by entering the following commands in the Command Window:

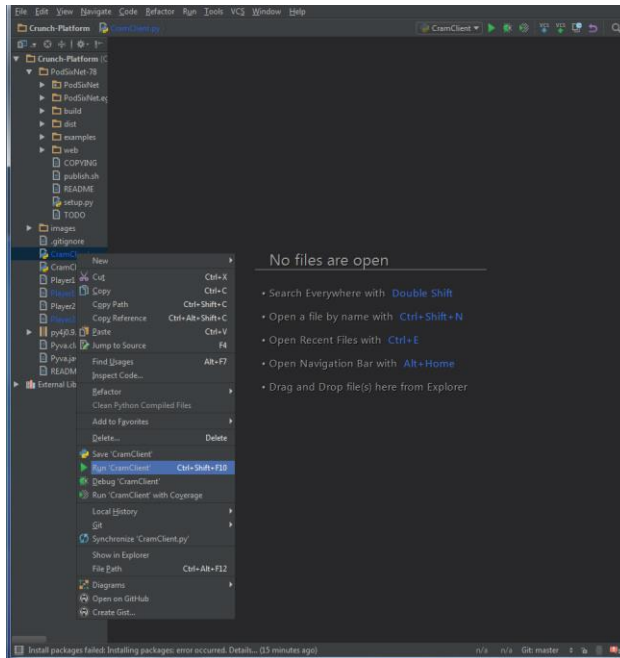
```
python
>>>import PodSixNet
```

If nothing happens you are good to go.



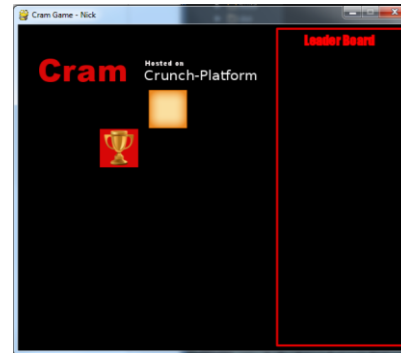
Remember when I said that there were only two steps left. Guess what I did not lie. We are done setup and installation. So lets play a game.

In **Pycharm** right-click the file **CramClient.py** and select **Run 'CramClient'** :



A window will spawn that's looks similar to this:


*Note: This is the main menu. It will be updated soon.



Player Vs. Player



Tournament

If you click the  you will be directed to this screen:

*This screen is where you can play friendly matches with other players on the network.

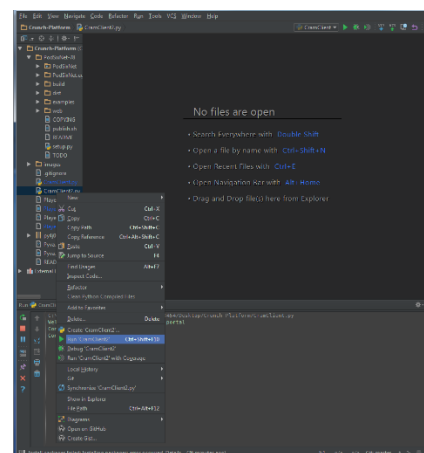
**If it is empty that is because you are the only person online.

***Take note of the name on the top bar of the window. This can help you identify which client you are using.



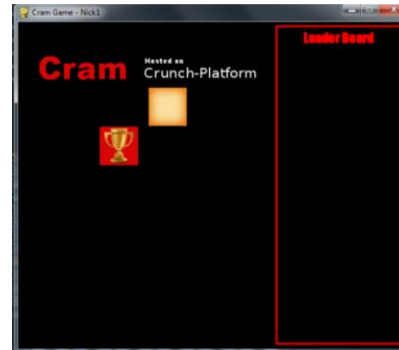
Lets run the second client and see what happens.

Go back to **Pycharm** right-click the file **CramClient2.py** and select **Run 'CramClient2'** :



Another window spawns with the same screen as before:

****Note:** There is a difference though. Look at the name on the top. In mine its Nick1



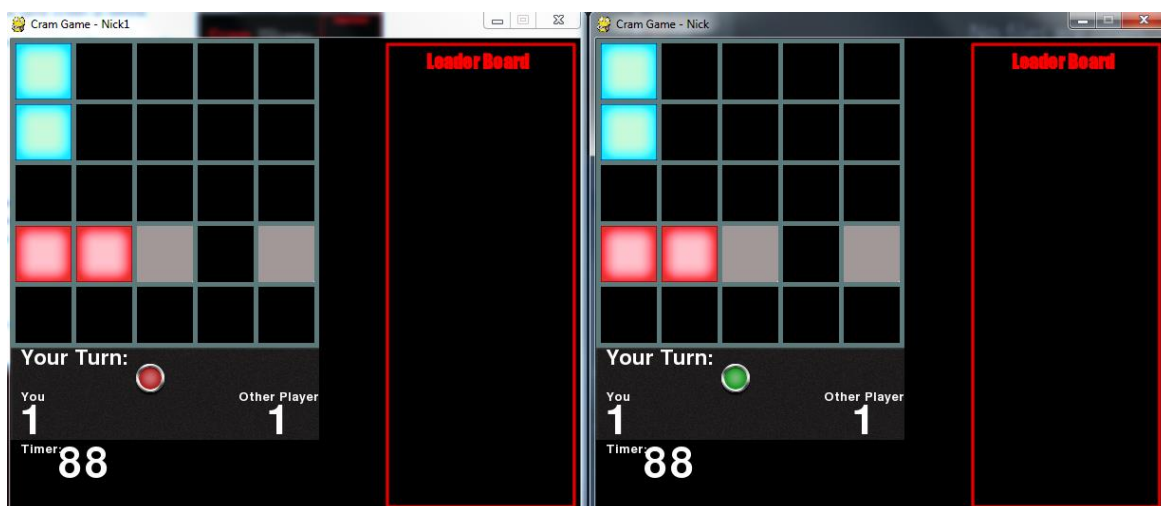
*****Wait** look at the other window with the first client at the other client that is open. Nick1 magically appeared in the menu. Pretty cool at least I think so.



Click on Nick1 in that first Client Window and lets see what happens:



Cool our first live game.



At the end of the game if you wait for 7 seconds there will be a rematch button. There is a bug in that feature right now so don't click it. Just close the window and start again.

Anyways, I will post an update on how to integrate your algorithm into the java files. For now try to set this up and get it running on your machine.

If you experience problems with the server please let me know.

Email: Nicholas.desouza@uoit.net

Text: 647 274 0204

Enjoy.