**How to Run Kun Wei and Bill Riedl’s Totalnums Python Script Using cx\_Oracle on a Windows 7 Machine:**

1: Download and install the latest version of Python 2.7 from the Python website:

<https://www.python.org/downloads/>

2: Add Python to your user variables path so that you can run Python through command line with simple commands. To do this, navigate to ‘Advanced System Properties’ on your PC (assuming you are using Windows 7) and click on the ‘Environment Variables…’ button. Edit the ‘Path’ Variable listed under user variables, and change the ‘Variable Value’ line so that it contains the direct path to the Python 2.7 directory, as well as the …python27\scripts directory. Separate unique paths with a semicolon. Click the ‘OK’ button when you have finished. Click ‘OK’ again and click ‘Apply’ to apply your changes to the environment variables.

3: Begin the cx\_Oracle installation process by visiting the following website. This page has a list of additional instructions that need to be accomplished before cx\_Oracle will work properly. I will summarize these steps below in numbers 4-8:

<http://ba6.us/?q=cx_Oracle_easy_windows_install>

4: Download and unzip the latest 12c Instant Client, as described in step 1 on the cx\_Oracle easy install webpage listed in number 3 of this document. To download 12c Instant client, visit the following webpage and choose the correct version for your OS. Download and unzip into a directory of your choosing:

<http://www.oracle.com/technetwork/database/features/instant-client/index-097480.html>

5: Add the instant client directory to your system variables path. Navigate to ‘Advanced System Properties’ on your PC (assuming you are using Windows 7) and click on the ‘Environment Variables…’ button. Edit the ‘Path’ Variable listed under system variables, and change the ‘Variable Value’ line by adding a semicolon to the end of the string followed by the directory that contains Instant Client.

6: Click on the following link and download the version of cx\_Oracle that will work with your computer:

<http://www.lfd.uci.edu/~gohlke/pythonlibs/#cx_oracle>

You will likely want one of these versions of cx\_Oracle:

cx\_Oracle for python 2.7, 32 bit: cx\_Oracle‑5.2.1+oci12c‑cp27‑cp27m‑win32.whl

cx\_Oracle for python 2.7, 64 bit: cx\_Oracle‑5.2.1+oci12c‑cp27‑cp27m‑win\_amd64.whl

7: Finish the installation of cx\_Oracle by running the following command in command line:

pip install cx\_Oracle\_FILENAME

cx\_Oracle\_FILENAME = the name of the compiled cx\_Oracle package that you downloaded in step 6 (e.g. cx\_Oracle-5.2.1+oci12c-cp27-cp27m-win32.whl).

8: You should test cx\_Oracle by running a few simple commands in the command line such as the following:

import cx\_Oracle

con = cx\_Oracle.connect('username/password@host:port/sid')

print(con.version)

con.close()

Where:

Username = the username used to log into your oracle database

Password = the password used to log into your oracle database

Host = host address

Port = port number

SID = service address or SID

9: Once cx\_Oracle is working properly, open a new command line window and navigate to the directory where the totalnums python script is stored. Issue the following command in command line in order to begin running the script ‘i2b2\_totalnum\_ora.py’ on a target Oracle database. When the script is finished, it will print the resulting files in the same directory as your totalnums script.

Command:

python i2b2\_totalnum\_ora.py LOGIN\_NAME/DB\_PASSWORD@HOST/SERVICE DB\_NAME

Definitions for above command:

LOGIN\_NAME = the name used to log into the target database (e.g. PCORNET)

DB\_PASSWORD = the password for the target database

HOST = the host address for the target database (e.g. racclusr2.dipr.partners.org)

SERVICE = the service address or SID for the target database (e.g. diprdev.eris.partners.org)

DB\_NAME = the name of your target database (e.g. PCORNET)