Project 1: The game of fighting cancer-reflection

The project that I chose was focusing on fighting cancer. I decided to use this topic because of following reasons; 1) cancer is always an interesting topic to me, 2) cancer has many subtypes and symptoms which give me an opportunity to review “List” and “Dictionary”, 3) the cancer treatments is repeatable which help me practice “For” and “While” loops, 4) because cancer treatment and response are unpredictable sometimes, I could use this character to practice “Algorithms”. Overall, I was trying to practice what we had learned in the first several weeks. More important, I hope I could get deeper understandings on “Class” and “Object-Oriented Programming” after completing the projects.

When I started to write the proposal, I did not think much on coding part. Therefore, the classes and attributes that I designed simply based on my understandings about cancers. I appreciated Richard gave many suggestions to think as programmer, so I could make my proposal more like a pseudocode. This really help me practice on writing a pseudocode for real case. Fortunately, I could follow the flow in the proposal and make every single part working as I desired.

Initially, instead of writing classes, I wrote the functions and converted them to class. However, after completed some of the functions and convert them, I realized this is not a good strategy. Therefore, I started to practice Class and got familiar.

I would also describe what I learned and what I needed to improve from writing each class. In the class player_info(), I learned how to prevent the error message and keep the program running correctly. However, the way I wrote in this class is more like function and I will improve this class by using set and get @propetry. In class effector(), cancer_rank(), and symptoms(), I practiced the random function in numpy and dictionary. In class treatment_option(), I used the similar strategy of recursion for repeat treatments. In addition, I gain better understandings on fancy loop exits. In class recurrence(), I applied two algorithms, random walk and autoregression. Finally, in treatment_periond(), I learned more about making plots without using packages.

Due to the inexperience on object-oriented programming, the major challenge of this project was to create all the interactions among every class and make sure the program working properly. Also, how to reduce the size of code by combining similar functions was the area that I need more practices.

Overall, I felt this is a wonderful way to review and practice Python; furthermore, getting familiar on writing several hundred lines of codes. I really enjoyed working on this assignment because it really made me think what I need to improve on Python programming.