Maintainability:

For dataset 1(house data), the number of pages is found on the first page, so if the number of page changes, the program will still find how many web pages all houses are shown in and go for all these pages. The information of houses is written in several ways, like <div class=’’> or <p class=’’>. I included all of them, and if a new pattern appears, I can find it and add to my code so my code will find this pattern. For the rest datasets, the websites and API has fixed pattern, but the framework is not likely to be changed. If the minor HTML content of the pattern of a button or input block changes, I can just find it again and modify my code based on the new pattern. Detailed explanation on code is in commented in the code, so it’s not hard to understand the code and make modification on it.

Extensibility:

For dataset 1, other information about houses can be fetched as well, like the house’s url link, the house’s picture. Also, the link of apartments.com can be a filter. Like normally the link is <https://www.apartments.com/off-campus-housing/ca/los-angeles/university-of-southern-california-university-park-campus/>, and if you want to find houses with 1 or 2 bedrooms, the url link is <https://www.apartments.com/off-campus-housing/ca/los-angeles/university-of-southern-california-university-park-campus/1-to-2-bedrooms/>. The program can add the filter on the link based on the input requirement to it, and scrape for the link.

For dataset 2, the unused API has other functions, like obtaining the route from one place to another, calculating the time spent on the route, with a specific kind of transportation like driving, biking.

For dataset 3, the code can find the coordinates for any list of locations.

For dataset 4 and 5, the time and search distance I chose is 28 days from now and ½ mile. These two settings can be changed to other choices, like 7 days, 1500 feet etc. Also, now I searched for all kinds of crimes, indeed there is also a filter on crime type. The time filter is already used in the code, and the other two filters are also easy to achieve.