**Milestone 4 - Mentor Meeting and API Specs**

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[Crime Data from 2020 to Present - Catalog](https://catalog.data.gov/dataset/crime-data-from-2020-to-present)

[Airbnb listings](https://data.insideairbnb.com/united-states/ca/los-angeles/2023-12-03/data/listings.csv)

Datasets:

| R1 | CrimeData | DR\_NO, Date Occ, Time Occ, AREA, Crm Cd, Premis Cd, Weapon Used Cd, Status |
| --- | --- | --- |
| R2 | Areas | AREA, AREA NAME, SUBAREA NAME |
| R3 | CrimeCodes | Crm Cd, Crm Cd Desc |
| R4 | Premises | Premis Cd, Premis Desc |
| R5 | Weapons | Weapon Used Cd, Weapon Desc |
| R6 | Status | Status, Status Desc |
| R7 | Severance | Crm Cd, Part1-2 |
| Airbnb | Airbnb | Id, host\_id, host\_name, neighborhood, room\_type, price, minimum\_nights, number\_of\_reviews, availability\_365, airbnb\_name, star, bedrooms, beds, baths |

**Route 1: authors**

* Functionality: This route returns either a list of names or a list of GitHub usernames based on the type specified.
* Request Path: GET /authors/:type
* Request Parameters: type (string): Specifies the type of data to return. Possible values are 'names' and 'gitnames'.
* Query Parameters: None
* Response Parameters:
  + name (array of strings): List of names if type is 'names'.
  + pennkey (array of strings): List of GitHub usernames if type is 'gitnames'.

**Route 2: random**

* Functionality: This route randomly recommends one Airbnb listing.
* Request Path: GET /random
* Request Parameters: None
* Query Parameters: None
* Response Parameters:
  + id (Int): ID of the recommended Airbnb listing.
  + title (string): Title of the recommended Airbnb listing .

**Route 3: listing**

* Functionality: Returns all information about a specific Airbnb listing based on the provided ID.
* Request Path: GET /listing/:id
* Request Parameters: id (string): ID of the Airbnb listing to retrieve information about.
* Query Parameters: None
* Response Parameters: Data object containing information about the Airbnb listing.

**Route 4: neighborhood**

* Functionality: Returns all neighborhoods with the most Airbnb listings in descending order.
* Request Path: GET /neighborhood
* Request Parameters: None
* Query Parameters: None
* Response Parameters: Array of objects containing neighborhood names and the count of Airbnb listings in each neighborhood.

**Route 5: area\_crime\_count**

* Functionality: Sorts areas based on the lowest crime number.
* Request Path: GET /area\_crime\_count
* Request Parameters: None
* Query Parameters: None
* Response Parameters: Array of objects containing area names and their respective crime counts, sorted by crime count in ascending order.

**Route 6: airbnb\_list**

* Functionality: Retrieves all Airbnb listings in a specific area with detailed information.
* Request Path: GET /airbnb\_list/:area
* Request Parameters: area (string): Name of the area to retrieve Airbnb listings from.
* Query Parameters: None
* Response Parameters: Array of objects containing information about Airbnb listings in the specified area.

**Route 7: high\_price\_low\_crime**

* Functionality: Identifies high-priced Airbnb listings in areas with low crime rates.
* Request Path: GET /high\_price\_low\_crime
* Request Parameters: None
* Query Parameters:
  + page (number): Page number for paginated results (optional).
  + page\_size (number): Number of results per page (optional).
* Response Parameters: Array of objects containing information about high-priced Airbnb listings in low crime rate areas.

**Route 8: areas\_statistics**

* Functionality: Retrieves statistics about areas including total incidents, unresolved incident rate, average price of Airbnbs, total listings of Airbnbs, and total reviews of Airbnbs in each area.
* Request Path: GET /areas\_statistics
* Request Parameters: None
* Query Parameters: None
* Response Parameters: Array of objects containing statistical information about areas including total incidents, unresolved incident rate, average price of Airbnbs, total listings of Airbnbs, and total reviews of Airbnbs.

**Route 9: search\_listing**

* Functionality: Searches and retrieves Airbnb listings based on specified search criteria.
* Request Path: GET /search\_listing
* Request Parameters: None
* Query Parameters:
  + title (string): Title of the Airbnb listing (optional).
  + star\_low (number): Lower bound of the star rating (optional).
  + star\_high (number): Upper bound of the star rating (optional).
  + crime\_rate\_low (number): Lower bound of the crime rate (optional).
  + crime\_rate\_high (number): Upper bound of the crime rate (optional).
  + bedroom\_low (number): Lower bound of the number of bedrooms (optional).
  + bedroom\_high (number): Upper bound of the number of bedrooms (optional).
  + bathroom\_low (number): Lower bound of the number of bathrooms (optional).
  + bathroom\_high (number): Upper bound of the number of bathrooms (optional).
  + min\_night\_low (number): Lower bound of minimum nights (optional).
  + min\_night\_high (number): Upper bound of minimum nights (optional).
* Response Parameters: Array of objects containing Airbnb listings that match the specified search criteria.

**Route 10: high\_demand\_low\_crime**

* Functionality: Identifies high-demand Airbnb listings in areas with low crime rates.
* Request Path: GET /high\_demand\_low\_crime
* Request Parameters: None
* Query Parameters:
  + page (number): Page number for paginated results (optional).
  + page\_size (number): Number of results per page (optional).
* Response Parameters: Array of objects containing information about high-demand Airbnb listings in low crime rate areas.

**Route 11: high\_crime\_listing**

* Functionality: Identifies Airbnb listings near high crime density areas.
* Request Path: GET /high\_crime\_listing
* Request Parameters: None
* Query Parameters:
  + page (number): Page number for paginated results (optional).
  + page\_size (number): Number of results per page (optional).
* Response Parameters: Array of objects containing information about Airbnb listings near high crime density areas.

**Route 12: rank**

* Functionality: Ranks each neighborhood by crime count, severe crime count, and average rating of Airbnb listings in each neighborhood.
* Request Path: GET /rank
* Request Parameters: None
* Query Parameters:
  + page (number): Page number for paginated results (optional).
  + page\_size (number): Number of results per page (optional).
* Response Parameters: Array of objects containing information about neighborhoods ranked by crime count, severe crime count, average rating, crime rank, and rating rank.