

Streamplate Server Technical Task

Using the venue dataset provided, write up a Python API that returns a list of categories and the venues under those categories that are closest to the coordinates provided. It should follow the requirements:

- Accepts arguments:
 - latitude (required)
 - longitude (required)
 - limit (optional): Limits the closest X venues that will be used to generate the categories and sort them under. If no limit is provided, the closest 10 venues will be used and sorted.
- Returns a list of objects in the format:

```
[
  {
    "category": Category1,
    "venues": [
      {
        "name": Venue1,
        "address": Address1
      },
      {
        "name": Venue2,
        "address": Address2
      },
    ]
  },
  {
    "category": Category2,
    "venues": [
      {
        "name": Venue3,
        "address": Address3
      },
    ]
  },
]
```

- The list of categories should be sorted in descending order of how many venues each category has, then in alphabetical order.
- The list of venues for each category should be sorted in ascending order of venue's distance from the provided coordinates.
- The API should include error checking for its arguments and return suitable responses.
- The API should run in under 0.7 seconds.

For example, for latitude = 49.000, longitude = -97.000, the API should return:

```
[
  {
    "category": "Local Eats",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}, {"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}, {"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}, {"name": "Vi-Ann Restaurant", "address": "1020 Notre Dame Ave, Winnipeg, Manitoba R3E0N5"}, {"name": "Burrito Splendido (1046 henderson-)", "address": "1046 Henderson Highway, Winnipeg, NAMER R2K 2M5"}, {"name": "Panda Tea (McPhillips St)", "address": "1041 McPhillips St, Winnipeg, MB R2X 2K6"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}]
  },
  {
    "category": "American",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}, {"name": "McDonald's (1001 Empress Street)", "address": "1001 Empress Street, Winnipeg, MB R3R 3P8"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}, {"name": "Burger King #7961 (100 21st Street North)", "address": "100 21st Street North, Moorhead, MN 56560"}]
  },
  {
    "category": "Asian",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}, {"name": "Vi-Ann Restaurant", "address": "1020 Notre Dame Ave, Winnipeg, Manitoba R3E0N5"}, {"name": "Panda Tea (McPhillips St)", "address": "1041 McPhillips St, Winnipeg, MB R2X 2K6"}]
  },
  {
    "category": "Fast Food",
    "venues": [{"name": "McDonald's (1001 Empress Street)", "address": "1001 Empress Street, Winnipeg, MB R3R 3P8"}, {"name": "Little Caesars (Henderson Hwy)", "address": "1050 Henderson Hwy, Winnipeg, MB R3K 2M5"}, {"name": "Burger King #7961 (100 21st Street North)", "address": "100 21st Street North, Moorhead, MN 56560"}]
  },
  {
    "category": "Breakfast and Brunch",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}]
  },
  {
    "category": "Burgers",
    "venues": [{"name": "McDonald's (1001 Empress Street)", "address": "1001 Empress Street, Winnipeg, MB R3R 3P8"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}]
  },
  {
    "category": "Chicken",
    "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}]
  },
  {
    "category": "Sandwiches",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}, {"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919 Henderson Highway, Winnipeg, MB R2G 1P4"}]
  },
  {
    "category": "Allergy Friendly",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}]
  },
]
```

```

{
  "category": "Asian Fusion",
  "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina
Hwy, Winnipeg, MB R3T 2G6"}]
},
{
  "category": "burger",
  "venues": [{"name": "Burger King #7961 (100 21st Street North)", "address": "100
21st Street North, Moorhead, MN 56560"}]
},
{
  "category": "Chinese",
  "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina
Hwy, Winnipeg, MB R3T 2G6"}]
},
{
  "category": "Desserts",
  "venues": [{"name": "Panda Tea (McPhillips St)", "address": "1041 McPhillips St,
Winnipeg, MB R2X 2K6"}]
},
{
  "category": "Family Meals",
  "venues": [{"name": "Burger King #7961 (100 21st Street North)", "address": "100
21st Street North, Moorhead, MN 56560"}]
},
{
  "category": "Filipino",
  "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street,
Winnipeg, Manitoba R3H 0K6"}]
},
{
  "category": "Fish and Chips",
  "venues": [{"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919
Henderson Highway, Winnipeg, MB R2G 1P4"}]
},
{
  "category": "Healthy",
  "venues": [{"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919
Henderson Highway, Winnipeg, MB R2G 1P4"}]
},
{
  "category": "Juice and Smoothies",
  "venues": [{"name": "Panda Tea (McPhillips St)", "address": "1041 McPhillips St,
Winnipeg, MB R2X 2K6"}]
},
{
  "category": "Latin American",
  "venues": [{"name": "Burrito Splendido (1046 henderson-)", "address": "1046
Henderson Highway, Winnipeg, NAMER R2K 2M5"}]
},
{
  "category": "New Mexican",
  "venues": [{"name": "Burrito Splendido (1046 henderson-)", "address": "1046
Henderson Highway, Winnipeg, NAMER R2K 2M5"}]
},
{
  "category": "Noodles",
  "venues": [{"name": "Vi-Ann Restaurant", "address": "1020 Notre Dame Ave, Winnipeg,
Manitoba R3E0N5"}]
},
{
  "category": "Pizza",
  "venues": [{"name": "Little Caesars (Henderson Hwy)", "address": "1050 Henderson
Hwy, Winnipeg, MB R3K 2M5"}]
},

```

```
{
  "category": "Salads",
  "venues": [{"name": "Smitty's Family Restaurant (Henderson)", "address": "#9 1919
Henderson Highway, Winnipeg, MB R2G 1P4"}]
},
{
  "category": "Seafood",
  "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street,
Winnipeg, Manitoba R3H 0K6"}]
},
{
  "category": "South East Asian",
  "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street,
Winnipeg, Manitoba R3H 0K6"}]
},
{
  "category": "Thai",
  "venues": [{"name": "Vi-Ann Restaurant", "address": "1020 Notre Dame Ave, Winnipeg,
Manitoba R3E0N5"}]
}
]
```

Then, for latitude = 49.000, longitude = -97.000, limit = 3, the API should return:

```
[
  {
    "category": "Local Eats",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}, {"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}, {"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}]
  },
  {
    "category": "Allergy Friendly",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}]
  },
  {
    "category": "American",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}]
  },
  {
    "category": "Asian",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}]
  },
  {
    "category": "Asian Fusion",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}]
  },
  {
    "category": "Breakfast and Brunch",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}]
  },
  {
    "category": "Chicken",
    "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}]
  },
  {
    "category": "Chinese",
    "venues": [{"name": "Dagu Rice Noodle (Winnipeg)", "address": "102-1855 Pembina Hwy, Winnipeg, MB R3T 2G6"}]
  },
  {
    "category": "Filipino",
    "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}]
  },
  {
    "category": "Sandwiches",
    "venues": [{"name": "Smitty's Family Restaurant (St. James)", "address": "1017 St James St, Winnipeg, MB R3H 0K6"}]
  },
  {
    "category": "Seafood",
    "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}]
  },
  {
    "category": "South East Asian",
    "venues": [{"name": "Food Trip Kitchen", "address": "1045 St James Street, Winnipeg, Manitoba R3H 0K6"}]
  }
]
```