Goal:

The objective of this work is mainly to :

1. Make a <u>sublist</u> from the highlights places with only the places <u>known and recognized</u> by Google (returned by his Places Search API).
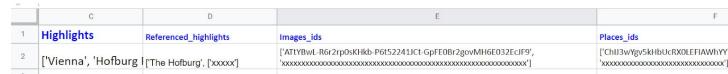2. For each recognized place add <u>2 new information</u> ('photo_reference' and 'Place_id').

Input :

Excel file (6300 lines) with 3 columns:'Country', 'City' and 'Highlights' (which has the following format: ['Place1', 'Place2' ….]).

Output:

Add 3 new columns to the excel file:

1. 'Referenced_highlights': containing all the points <u>matching</u> a known Place on Google Places.
2. 'Images_ids': Containing the corresponding <u>photo reference</u> for each referenced highlights.
3. 'Places_ids': Containing the corresponding <u>place id</u> for each referenced highlights.

   =>So All the added columns (3) should have the same item numbers.

   => Please, if you have any remark/ suggestion about the data schema let me know.

	C	D	E		F
1	**Highlights**	**Referenced_highlights**	**Images_ids**		**Places_ids**
2	['Vienna', 'Hofburg	['The Hofburg', ['xxxxx']	['ATtYBwL-R6r2rp0sKHkb-P6t52241JCt-GpFE0Br2govMH6E032EcJF9', 'xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx']		['ChIJ3wYgv5kHbUcRX0LEFIAWhYY 'xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx']

Process:

For each line in the excel file:

    For each point from the input column:

        Send a Google Place API request to check if it has a corresponding known place. And if it's the case, get also the reference for its image and the place id from the returned JSON.

Google Place Search API:

Request:

https://maps.googleapis.com/maps/api/place/textsearch/json?query=PPPPP&language=en&key=KKKKK

Replace PPPPP with the place+city. (example:'the Hofburg Palace' become 'the+Hofburg+Palace+Vienna').

Replace KKKKK with the API key (Let me know if you need one).

Documentation (if needed):

https://developers.google.com/places/web-service/search

Remarks:

1. Some points don't return a 'Photo_reference' value
   => Solution: Put '0000' instead.
2. For some points, the API requests return many values. Example "the+Champs+Elysees+paris" returns 2 places with 2 different names 'Av. des Champs-Élysées' and 'Champs-Élysées, Paris, France'
   => Solution: Select the place with the higher 'user_ratings_total' value.

A step by step example:

Input:

	A	B	C
1	**Country**	**City**	**Highlights**
2	Austria	Vienna	['Vienna', 'Hofburg Palace', 'the Hofburg Palace', 'Augustinian Church', 'the Neuer Markt', 'Blutgasse', "St. Stephen's"]

API returned values:

- Vienna: The highlight has the same name as the city => don't send a request: ignore it and don't add it to 'Referenced_highlights'
- 'Hofburg Palace':

  https://maps.googleapis.com/maps/api/place/textsearch/json?query=Hofburg+Palace+vienna&language=en&key=xxxxxx

return only 1 place with the following information:

name=The Hofburg (to add to 'Referenced_highlights' column)

Photo_reference=ATtYBwL-R6r2rp0sKHkb-P6t52241JCt-GpFE0Br2govMH6E032EcJF9tddimMe2YwLUDc4-vz4OKSrO8sard

vz_YfBitACJPAltMyaUkkaFCDoIEqvvcNKX-UfwCDWcFMYjw7fiJdXX_pkBbjuPS53Z2jpYihBUpI50SKOo32po-8VqSnQq

(to add to 'Images_ids' column)

place_id=ChIJ3wYgv5kHbUcRX0LEFIAWhYY (to add to 'Images_ids' column).

- 'The Hofburg Palace': The request

  https://maps.googleapis.com/maps/api/place/textsearch/json?query=The+Hofburg+Palace+vienna&language=en&key=XXXXX

  returns a single point having the same place ID "ChIJ3wYgv5kHbUcRX0LEFIAWhYY" => Don't Add a new entry to 'Referenced_highlights' etc...

- 'augustinian church': the request

  https://maps.googleapis.com/maps/api/place/textsearch/json?query=augustinian+church+vienna&language=en&key=xxxx

  returns a single point with place_id= ChIJ9SMnY5kHbUcRyjvhFEBAo1k (a new value for this line so add the place to the current excel line as a recognized and a well-known place.

- etc....(same process for the other points..