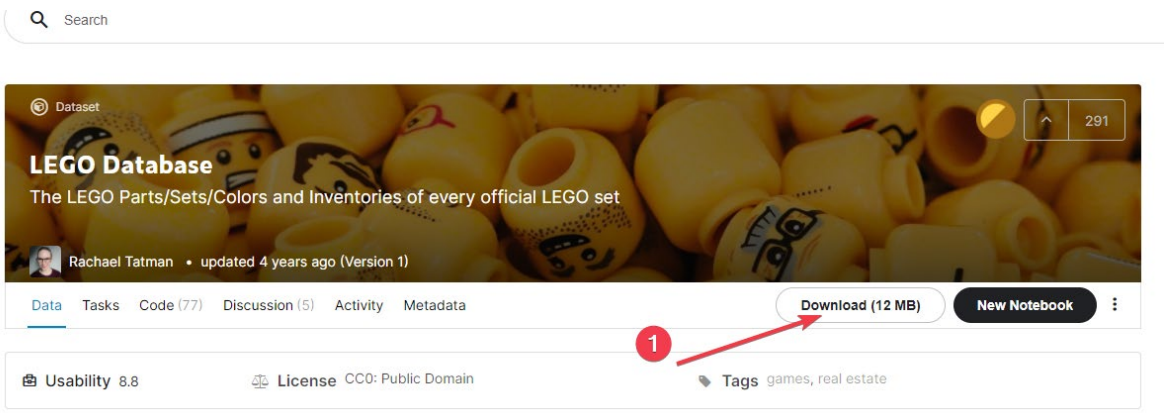
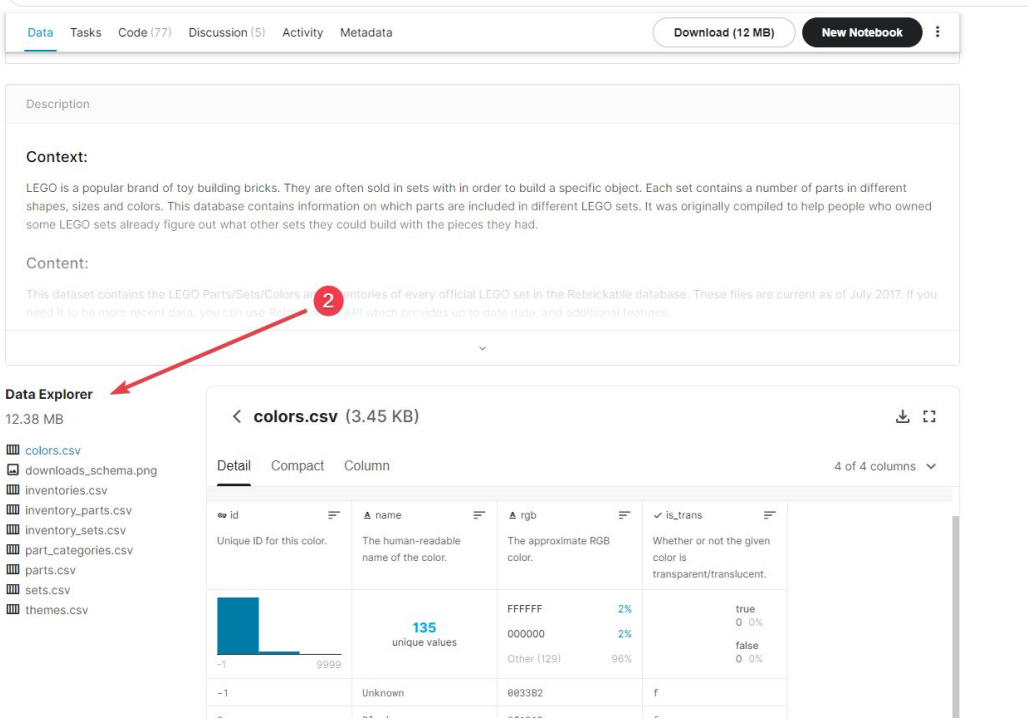
IT478 Final Exam

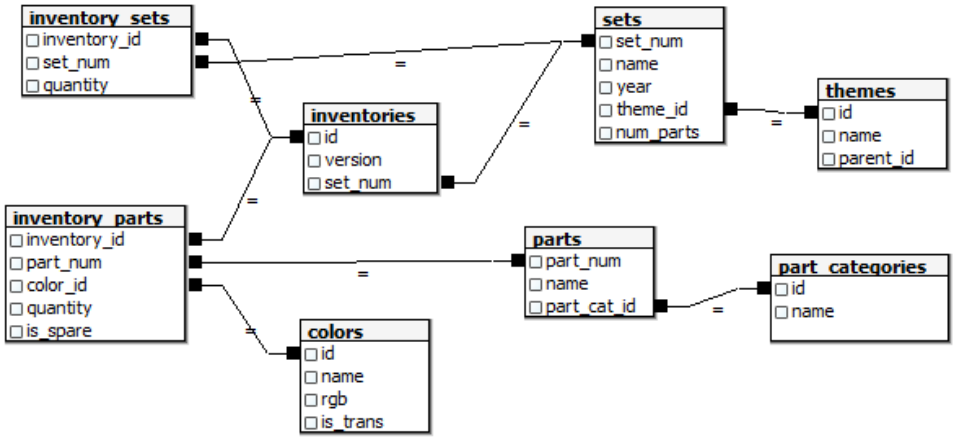
Part 1 (Questions 1 – 13) NO Deliverables. I have access to your account and will check the systems tables to see if you have created the Lego Tables correctly

1. Goto https://www.kaggle.com/rtatman/lego-database and download the data.



2. There is a lot of information about this data on this webpage. Please take the time use the Data Explorer and view information about each file in the dataset.





Above is a crude ERD of the data.

3. Drop the tables (in case you already have tables with these names)

```
DROP TABLE color;
DROP TABLE inventories;
DROP TABLE inventory_parts;
DROP TABLE inventory_sets;
DROP TABLE part_categories;
DROP TABLE parts;
DROP TABLE sets;
DROP TABLE themes;
```

4. Use the DDL below to create the inventories, inventory_parts, parts, and sets tables

```
CREATE TABLE inventories
    (id int, version int, set_num varchar2(20));

CREATE TABLE inventory_parts
    (inventory_id int, part_num varchar2(20), color_id int, quantity
int, is_spare varchar2(1));

CREATE TABLE parts
    (part_num varchar2(20), name varchar2(250), part_cat_id int);

CREATE TABLE sets
    (set_num varchar2(20), name varchar2(250), year int, theme_id int,
num_parts int);
```

5. Load the data from Kaggle.com into the **inventories, inventory_parts, parts,** and **sets** tables
6. Write the DDL needed to create the **colors, inventory_sets, part_categories,** and **themes** tables.

7. Load the data from Kaggle.com into the **colors, inventory_sets, part_categories,** and **themes** tables.
8. Write the SQL needed to make the **id** columns the primary key in the **colors, part_categories** and **themes tables**.
9. Create a foreign key relationship between part_categories and parts
10. Create a foreign key relationship between colors and inventory_parts
11. Create a foreign key relationship between themes and sets
12. Add Redbird Red (id = 1857) (rgb=FF0000) (is_trans = t) to the colors table.
13. Add Normal IL Gray (id = 1865) (rgb= 3F3F3F) (is_trans = f) to the colors table.

Again, there is nothing to submit for 1-13 above

Part 2—submit a single file showing both your SQL and the answers to questions 14-25)

14. Write the SQL to give user IT478S22 SELECT, INSERT, UPDATE, and DELETE privileges on the SETS, COLORS and THEMES table.
15. Query the USER_TAB_PRIVS table to show only user IT478S22's privileges
16. Revoke user IT478S22 INSERT, UPDATE, and DELETE privileges on the COLORS and THEMES table.
17. Revoke all user IT478S22 privileges on the SETS table.
18. Query the USER_TAB_PRIVS table to show all privileges
19. Query the proper systems table to show all constraints on the **part_categories** table.
20. Create the query needed to answer: How may blue parts are there in the Lego data?
21. Create the query needed to answer: What are the oldest sets in the Lego data?
22. Create the query needed to answer: What are the oldest sets in the Lego data WITH a Robot theme?
23. Find average number of pieces in each Lego set (by year) for the years 2000-2005. Order the results from highest to lowest.
24. Create the query needed to answer: Which year in the 1990's had the most sets?
25. Create the query needed to answer: Which theme was the most popular in the 1990's?