**Fetch Data Model**

* The data given are 3 json files – Users, Receipts and Brand data.
* As per the relational model diagram, the 3 data files are considered as 3 tables.
* The Receipts table has some important fields like \_id, rewardsReceiptItemList, totalSpent, userId etc which has been used in the SQL queries.
* The Users table has some important fields like \_id, createdDate etc which has been used in the SQL queries.
* The Brand table also has some important fields like \_id, barcode, brandcode etc which has been again used in the SQL queries.
* The Users table could be easily linked to the Receipts table with \_id and userId respectively. Here \_id in Users table is a primary key and userId is a foreign key in Receipts table.
* I couldn't find a direct relation between Receipts and Brand table. So, I debugged and found similarity between these tables using the Pandas (Python). This code can be found in **Data Quality Issues.py** file.
* The Receipts and Brand table could be linked by analyzing and debugging the field “rewardsReceiptItemList” in Receipts table.
* This field has again multiple fields like barcode, brandcode, description etc.
* Using Python Pandas, a link could be established between Receipts and Brand tables using the “rewardsReceiptItemList” which I have displayed as a separate table in the above relational model diagram.
* As shown in the diagram, the Receipts and itemlist tables have been related using \_id and receipt\_id respectively.
* And the itemlist and Brand table have been related using the field brandcode in both the tables.

Please refer to the Fetch Data Model diagram!