

## CINS 370 Team Project Assignment 2

### **Group 1 Members**

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### **1. Datasets**

#### **DESCRIPTION:**

The datasets that are shown above are composed of multiple files that are related to each other. These datasets are an attempt to evaluate large volumes of stored data and are important to support new information that can be derived from the stored data

**Table 1: Income.** It has 4 attributes which are **Country\_Code** - It is the short form of different country names, **Region** - It describes the different parts of the world, **Income\_Group** - It describes upper and lower level of country income and **Country** - It is the list of nations on earth.

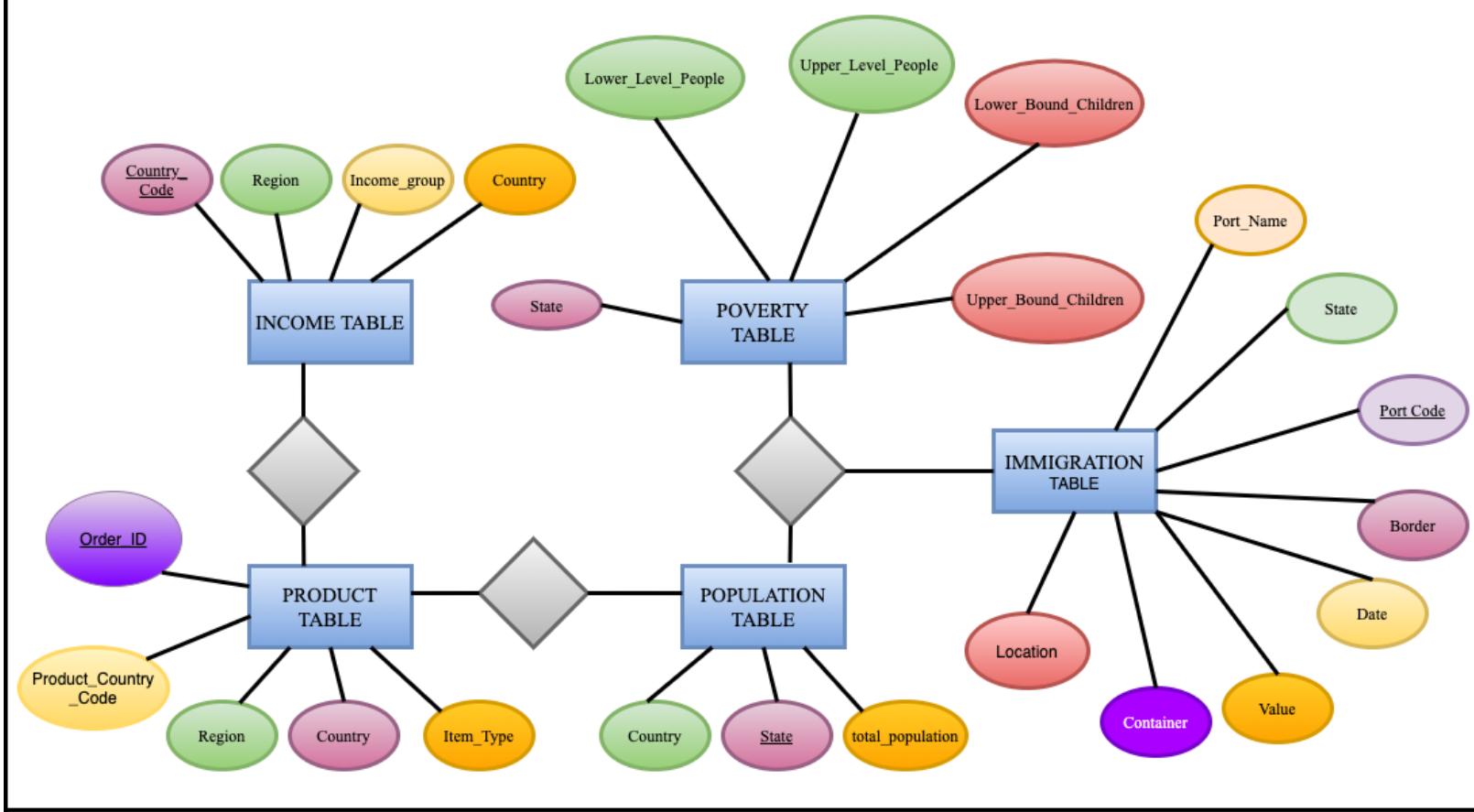
**Table 2 : Product.** It has 5 attributes which are - **Region** - It describes the different parts of the world, **Product\_Country\_Code**: It is the abbreviation of different country names, **Country**- It is the list of nations on earth, **Item\_Type** - It describes the highest ordered in 2018 by that country and **Order\_ID** : It describes the numerical value of the each order as it's id.

**Table 3 : Immigration.** It has 8 attributes which are - **Port\_Name** - It describes the ship ports in that country, **State** - It describes the name of states in specific countries, **Port\_Code** - It describes specific zip code of the ports, **Border** - It describes number of inter related crossings between the countries, **Date** - It describes the date of immigration, **Container** - It lists number of vehicles migrating via border, **Value** - It describes the number of people crossing the border, **Location** - It describes the latitude and longitude of the border.

**Table 4 : Population.** It has 3 attributes which are **Country** -It is the list of nations on earth, **State** - It describes the name of states in specific countries and **Population** - It describes the number of US population in 2018.

**Table 5 : Poverty.** It has 5 attributes which are **State** - It describes the name of states in specific countries, **Lower\_Level\_People** - It describes the number of people under the poverty line, **Upper\_Level\_People** - It describes the number of people over the poverty line, **Lower\_Bound\_Children** - It describes the number of children under the poverty line and **Upper\_Bound\_Children** - It describes the number of children over the poverty line.

### **2. ER Diagram**



### 3. Relation Schemas with PRIMARY AND FOREIGN Keys

#### CREATE TABLE INCOME

```

(
Country_Code      CHAR (3)          NOT NULL
Region           VARCHAR (25)        NOT NULL
Income_Group     ENUM ('High income',
                      'Low income',
                      'Upper middle income',
                      'Lower middle income') NOT NULL
Country          VARCHAR (25)        NOT NULL
PRIMARY KEY    (Country_Code),

```

#### DESCRIPTION:

Primary key as country\_code is selected because it is a unique value as it will not be the same for any other country.

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## **CREATE TABLE PRODUCT**

```
(  
Product_Country_Code  VARCHAR(15)    NOT NULL  
Region               VARCHAR(15)    NOT NULL  
Country              VARCHAR(15)    NOT NULL  
Item_Type             VARCHAR(15)    NOT NULL  
PRIMARY KEY        (Order_ID)  
FOREIGN KEY        (Product_Country_Code)   REFERENCES INCOME(Country_Code))
```

### **DESCRIPTION:**

Primary key as Order\_ID is selected because it is a unique numeric value as it will not be the same for any other product.

Foreign Key as Product\_Country\_Code is selected to relate data with other tables.

## **CREATE TABLE POPULATION**

```
(  
State                VARCHAR(15)    NOT NULL  
Country              CHAR(3)       NOT NULL      DEFAULT 'USA'  CHECK (Country=USA)  
total_population     INT          NOT NULL  
PRIMARY KEY        (State)
```

### **DESCRIPTION:**

Primary key as State is selected because it is a unique value as the name of the state will not be the same with any other state's name.

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```

CREATE TABLE IMMIGRATION
(
Port_Code      VARCHAR(15)    NOT NULL
Port_Name      VARCHAR(15)    NOT NULL
State          VARCHAR(15)    NOT NULL
Border         VARCHAR(15)    NOT NULL
Date           DATETIME      NOT NULL    DEFAULT CURRENT_DATE ()
Container       VARCHAR(15)    NOT NULL
Value          INT            NOT NULL    CHECK (Value>0)
Location        VARCHAR(45)   NOT NULL
PRIMARY KEY  (Port_Code)
FOREIGN KEY  (State)          REFERENCES POPULATION(State))

```

#### **DESCRIPTION:**

Primary key as Port\_Code is selected because it is a unique numeric value as it will not be similar to any other Port\_Code's value.

Foreign Key as State is selected because it is a primary key in population table and it is used as a foreign key to create a connection between both tables.

```

CREATE TABLE POVERTY
(

```

State	VARCHAR(15)	NOT NULL	UNIQUE
Lower_Level_People	VARCHAR(15)	NOT NULL	
Upper_Level_People	VARCHAR(15)	NOT NULL	
Upper_Bound_Children	VARCHAR(15)	NOT NULL	
Lower_Bound_Children	VARCHAR(15)	NOT NULL	
<b>FOREIGN KEY</b>	(State)		<b>REFERENCES</b> POPULATION(State)

#### **DESCRIPTION:**

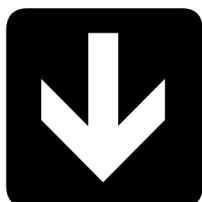
There is no primary key in this table because, "State" is a foreign key for the population table. No other value than "State" had unique values to be a primary key.

Foreign Key as "State" is selected because it is a primary key in the population table and it is used as a foreign key to create a connection between both tables.

### **INDIVIDUAL CONTRIBUTION DETAILS**

- Viraj Sonavale did the dataset problem number 1.
- Mansi Dogra did the ER Diagram problem number 2 and the description of all the questions, also did the extra credit website interface.
- Adhaar Jaiswal did the Relation Schemas problem number 3.
- Everyone helped everyone as we were working together.

### **EXTRA CREDIT ASSIGNMENT ATTACHED BELOW**





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