The Crystal Library

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Summary

The Crystal Library will be a catalog of my personal collection of crystals. Currently, I have no catalog of the crystals I own, and when I need to look up the attributes of a specific crystal, I have to search through three separate books to find the necessary information. I am proposing to implement a database of my crystal collection so that I can track which crystals I own, and the origins, colors, rarity, and mystical properties (such as protection, healing, etc.) of each crystal. Phase 1 will be defining the catalog in terms of entities and relationships by determining the business rules, providing a glossary, identifying the questions I would like to answer as a result of this project, and demonstrating both a conceptual and logical model of the future database. Phase 2 will be implementing the database.

Stakeholders

The stakeholder of this project is myself. The implementation of a database will increase my knowledge of the crystals in my collection and enable me to look up the various crystal properties much more quickly and efficiently.

Business Rules

- A crystal originates from one or more sources.
- A source creates zero or many crystals.
- A crystal displays one or many colors.

- A color may display on many crystals.

- A crystal may be rare.

- A crystal may exhibit many mystical properties.

- A mystical property may apply to many crystals.

Glossary

A **crystal** is a precious gemstone, stone, or rock.

A **source** is continent and country that produces a crystal.

A **color** is the shade and appearance or sheen of a crystal.

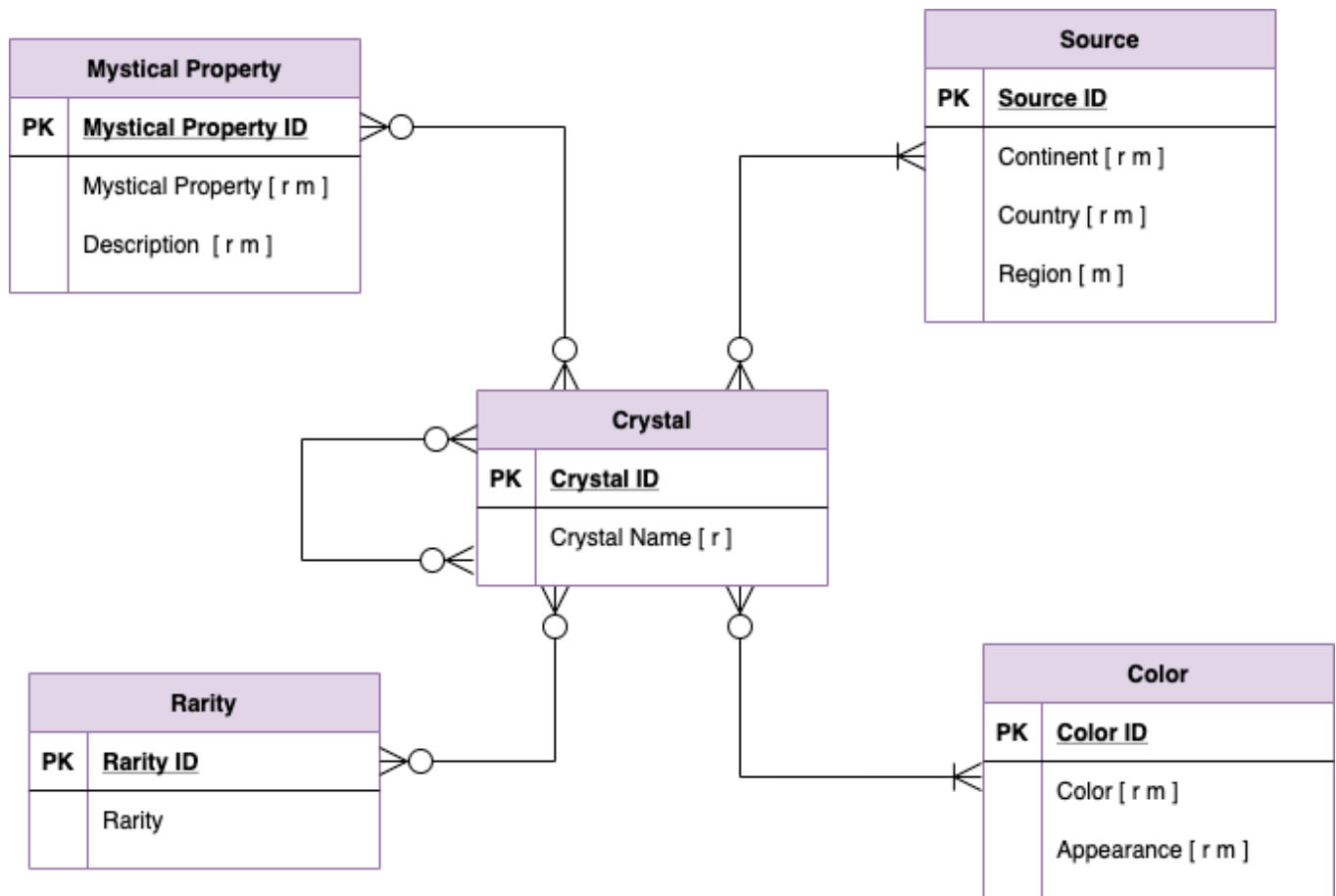A **rarity** is the commonality or readiness of availability of a crystal.

A **mystical property** is a supernatural attribute associated with a crystal.
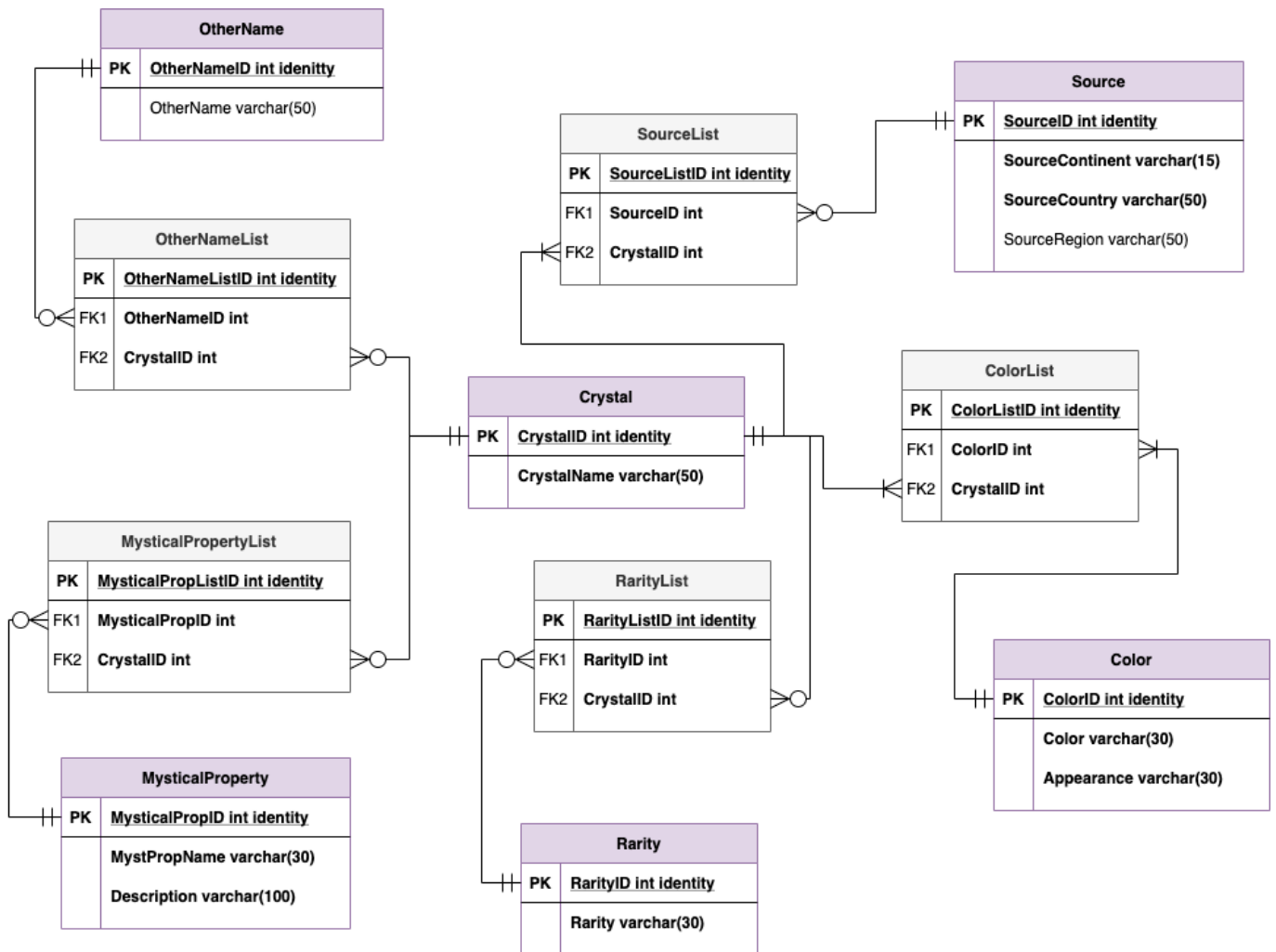
Data Questions

- How many types of crystals do I own?

- How many types of rare crystals do I own?

- What crystals have protection properties?

- What crystals have healing properties?

- What source do most of my crystals originate from?

Conceptual Model

Mystical Property

PK	**Mystical Property ID**
	Mystical Property [r m]
	Description [r m]

Source

PK	**Source ID**
	Continent [r m]
	Country [r m]
	Region [m]

Crystal

PK	**Crystal ID**
	Crystal Name [r]

Rarity

PK	**Rarity ID**
	Rarity

Color

PK	**Color ID**
	Color [r m]
	Appearance [r m]

Logical Model

OtherName

PK	OtherNameID int idenitty
	OtherName varchar(50)

OtherNameList

PK	OtherNameListID int identity
FK1	OtherNameID int
FK2	CrystalID int

SourceList

PK	SourceListID int identity
FK1	SourceID int
FK2	CrystalID int

Source

PK	SourceID int identity
	SourceContinent varchar(15)
	SourceCountry varchar(50)
	SourceRegion varchar(50)

Crystal

PK	CrystalID int identity
	CrystalName varchar(50)

ColorList

PK	ColorListID int identity
FK1	ColorID int
FK2	CrystalID int

MysticalPropertyList

PK	MysticalPropListID int identity
FK1	MysticalPropID int
FK2	CrystalID int

RarityList

PK	RarityListID int identity
FK1	RarityID int
FK2	CrystalID int

Color

PK	ColorID int identity
	Color varchar(30)
	Appearance varchar(30)

MysticalProperty

PK	MysticalPropID int identity
	MystPropName varchar(30)
	Description varchar(100)

Rarity

PK	RarityID int identity
	Rarity varchar(30)

SQL Code

```sql
IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME='MysticalPropertyList')
BEGIN
       DROP TABLE MysticalPropertyList
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='OtherNameList')
BEGIN
       DROP TABLE OtherNameList
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='RarityList')
BEGIN
       DROP TABLE RarityList
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='ColorList')
BEGIN
       DROP TABLE ColorList
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='SourceList')
BEGIN
       DROP TABLE SourceList
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='MysticalProperty')
BEGIN
       DROP TABLE MysticalProperty
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='OtherName')
BEGIN
       DROP TABLE OtherName
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='Rarity')
BEGIN
       DROP TABLE Rarity
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='Color')
BEGIN
       DROP TABLE Color
END
```

```sql
IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='Source')
BEGIN
        DROP TABLE Source
END


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME='Crystal')
BEGIN
        DROP TABLE Crystal
END

-- Creating the Crystal table
CREATE TABLE Crystal (
        -- Columns for Crystal table
        CrystalID int identity
        , CrystalName varchar(50) not null
        -- Constraints on Crystal table
        CONSTRAINT PK_Crystal PRIMARY KEY (CrystalID)
)

-- Creating the Source table
CREATE TABLE Source (
        -- Columns for Source table
        SourceID int identity
        , SourceContinent varchar(20) not null
        , SourceCountry varchar(50)
        , SourceRegion varchar(50)
        -- Constraints on Source table
        CONSTRAINT PK_Source PRIMARY KEY (SourceID)
)

-- Creating the Color table
CREATE TABLE Color (
        -- Columns for Color table
        ColorID int identity
        , Color varchar(50) not null
        , Appearance varchar(50) not null
        -- Constraints on Color table
        CONSTRAINT PK_Color PRIMARY KEY (ColorID)
)

-- Creating the Rarity table
CREATE TABLE Rarity (
        -- Columns for Rarity table
        RarityID int identity
        , Rarity varchar(30) not null
        -- Constraints on Rarity table
        CONSTRAINT PK_Rarity PRIMARY KEY (RarityID)
)

-- Creating the OtherName table
CREATE TABLE OtherName (
        -- Columns for Other Name table
        OtherNameID int identity
        , OtherName varchar(50)
        -- Constraints on Other Name table
        CONSTRAINT PK_OtherName PRIMARY KEY (OtherNameID)
```

```sql
)

-- Creating the Mystical roperty table
CREATE TABLE MysticalProperty (
        -- Columns for MysticalProperty table
        MysticalPropID int identity
        , MystPropName varchar(30) not null
        , Description varchar(100) not null
        -- Constraints on Mystical Property table
        CONSTRAINT PK_MysticalProperty PRIMARY KEY (MysticalPropID)
)

-- Creating the SourceList table
CREATE TABLE SourceList (
        -- Columns for SourceList table
        SourceListID int identity
        , SourceID int not null
        , CrystalID int not null
        -- Constraints on SourceList table
        CONSTRAINT PK_SourceList PRIMARY KEY (SourceListID)
        , CONSTRAINT FK1_SourceList FOREIGN KEY (SourceID) REFERENCES Source(SourceID)
        , CONSTRAINT FK2_SourceList FOREIGN KEY (CrystalID) REFERENCES Crystal(CrystalID)
)

-- Creating the ColorList table
CREATE TABLE ColorList (
        -- Columns for ColorList table
        ColorListID int identity
        , ColorID int not null
        , CrystalID int not null
        -- Constraints on SourceList table
        CONSTRAINT PK_ColorList PRIMARY KEY (ColorListID)
        , CONSTRAINT FK1_ColorList FOREIGN KEY (ColorID) REFERENCES Color(ColorID)
        , CONSTRAINT FK2_ColorList FOREIGN KEY (CrystalID) REFERENCES Crystal(CrystalID)
)

-- Creating the RarityList table
CREATE TABLE RarityList (
        -- Columns for RarityList table
        RarityListID int identity
        , RarityID int not null
        , CrystalID int not null
        -- Constraints on RarityList table
        CONSTRAINT PK_RarityList PRIMARY KEY (RarityListID)
        , CONSTRAINT FK1_RarityList FOREIGN KEY (RarityID) REFERENCES Rarity(RarityID)
        , CONSTRAINT FK2_RarityList FOREIGN KEY (CrystalID) REFERENCES Crystal(CrystalID)
)

-- Creating the OtherNameList table
CREATE TABLE OtherNameList (
        -- Columns for OtherNameList table
        OtherNameListID int identity
        , OtherNameID int not null
        , CrystalID int not null
        -- Constraints on OtherNameList table
        CONSTRAINT PK_OtherNameList PRIMARY KEY (OtherNameListID)
        , CONSTRAINT FK1_OtherNameList FOREIGN KEY (OtherNameID) REFERENCES
OtherName(OtherNameID)
```

```sql
        , CONSTRAINT FK2_OtherNameList FOREIGN KEY (CrystalID) REFERENCES
Crystal(CrystalID)
)

-- Creating the MysticalPropertyList table
CREATE TABLE MysticalPropertyList (
        -- Columns for MysticalPropertyList table
        MysticalPropListID int identity
        , MysticalPropID int not null
        , CrystalID int not null
        -- Constraints on MysticalPropertyList table
        CONSTRAINT PK_MysticalPropertyList PRIMARY KEY (MysticalPropListID)
        , CONSTRAINT FK1_MysticalPropertyList FOREIGN KEY (MysticalPropID) REFERENCES
MysticalProperty(MysticalPropID)
        , CONSTRAINT FK2_MysticalPropertyList FOREIGN KEY (CrystalID) REFERENCES
Crystal(CrystalID)
)

--Adding data to Crystal table
INSERT INTO Crystal(CrystalName)
        VALUES
                ('Labradorite'), ('Citrine'), ('Diamond'), ('Carnelian')
                , ('Moss Agate'), ('Snow Quartz'), ('Smoky Quartz'), ('Rose Quartz')
                , ('Cat's Eye'), ('Garnet'), ('Aquamarine'), ('Alexandrite')
                , ('Selenite'), ('Moonstone'), ('Tiger's Eye')

--Adding data to Source table
INSERT INTO Source(SourceContinent, SourceCountry)
        VALUES
                ('Europe', 'Italy'), ('Europe', 'Finland')
                , ('Europe', 'Scandinavia'), ('Asia', 'Russia')
                , ('North America', 'Greenland'), ('North America', 'Canada')
                , ('Africa', 'Zimbabwe'), ('South America', 'Brazil')
                , ('Europe', 'France'), ('Europe', 'Britain')
                , ('Africa', 'Madagascar'), ('North America', 'United States')
                , ('Africa', 'Africa'), ('Australia', 'Australia'), ('Asia', 'India')
                , ('Europe', 'Czech Republic'), ('Europe', 'Slovakia')
                , ('Europe', 'Romania'), ('South America', 'Peru')
                , ('Europe', 'Iceland'), ('Worldwide', 'Worldwide')
                , ('Africa', 'South Africa'), ('Asia', 'Japan')
                , ('Asia', 'Myanmar'), ('Africa', 'Ghana')
                , ('Europe', 'Norway'), ('North America', 'Mexico')
                , ('Europe', 'Ireland'), ('Asia', 'Afghanistan')
                , ('Asia', 'Pakistan'), ('Asia', 'Sri Lanka')
                , ('Europe', 'Austria'), ('Europe', 'Greece')
                , ('Europe', 'Poland'), ('Europe', 'Germany')
                , ('Europe', 'England')

--Adding data to Color table
INSERT INTO Color(Color, Appearance)
        VALUES
                ('Grayish to black with blue, yellow', 'Opaque')
                , ('Yellow to yellowish brown', 'Transparent')
                , ('Smoky gray-brown', 'Transparent')
                , ('Clear', 'Transparent'), ('Yellow', 'Transparent')
                , ('Blue', 'Transparent'), ('Brown', 'Transparent')
                , ('Pink', 'Transparent'), ('Red', 'Translucent')
                , ('Orange', 'Translucent'), ('Pink', 'Translucent')
```

```sql
            , ('Brown', 'Translucent'), ('Green', 'Transparent or translucent')
            , ('Blue', 'Transparent or translucent')
            , ('Red', 'Transparent or translucent')
            , ('Pink', 'Transparent or translucent')
            , ('Orange', 'Transparent or translucent')
            , ('Black', 'Transparent or translucent')
            , ('Yellow', 'Transparent or translucent')
            , ('Brown', 'Transparent or translucent'), ('White', 'Milky')
            , ('Brownish to blackish', 'Translucent')
            , ('Yellowish', 'Translucent')
            , ('Golden yellow', 'Transparent')
            , ('Yellow with brown', 'Transparent'), ('Green with red', 'Transparent')
            , ('Green-blue', 'Clear to opaque'), ('Pure white', 'Translucent')
            , ('Blue', 'Translucent'), ('Green', 'Translucent')
            , ('White', 'Milky, translucent'), ('Cream', 'Milky, translucent')
            , ('Yellow', 'Milky, translucent'), ('Blue', 'Milky, translucent')
            , ('Green', 'Milky, translucent'), ('Brown-yellow', 'Banded, slightly
shiny')
            , ('Pink', 'Banded, slightly shiny')
            , ('Blue', 'Banded, slightly shiny')
            , ('Red', 'Banded, slightly shiny')

--Adding data to Rarity table
INSERT INTO Rarity(Rarity)
      VALUES
            ('Readily available'), ('Rare'), ('Expensive'), ('Common'), ('Easily
obtained')

--Adding data to MysticalProperty table
INSERT INTO MysticalProperty(MystPropName, Description)
      VALUES
            ('Blood pressure', 'Lowers blood pressure')
            , ('Stress relief', 'Relieves stress')
            , ('Hormones', 'Balances hormones and relieves menstrual tension')
            , ('Healing', 'Lowers blood pressure')
            , ('Protection', 'Absorbs, transmutes, dissipates, and grounds negative
energy')
            , ('Abundance', 'Attracts wealth, prosperity, and success')
            , ('Amplifier', 'Increases energy, positive and negative')
            , ('Stability', 'Restores vitality and motivation, stimulates creativity')
            , ('Grounding', 'Grounds and anchors in the present reality')
            , ('Birthing', 'Assists midwives, lessens pain and ensures a good
delivery')
            , ('Learning', 'Supports learning lessons')
            , ('Let go', 'Helps let go of overwhelming responsibilities and
limitations')
            , ('Positivity', 'Promotes positive and pragmatic thoughts')
            , ('Love', 'Unconditional love and infinite peace, purifies and opens the
heart to all levels of love')
            , ('Dispels', 'Dispels negative energy from the aura and provides
protection')
            , ('Happiness', 'Brings confidence, happiness, serenity, and good luck')
            , ('Energizing', 'Powerfully energizing and regenerating; revitalizes,
purifies, and balances energy')
            , ('Sex', 'Inspires love and devotion; balances the sex drive and aids
sexual potency')
            , ('Calming', 'Calms the mind and removes extraneous thought')
```

```sql
                , ('Regenerative', 'Rebuilds self-respect and supports rebirth of the inner
and outer self')
                , ('Centers', 'Centers, reinforces, and realigns the mental, emotional, and
spiritual bodies')


-- Adding data to OtherName table
INSERT INTO OtherName(OtherName)
        VALUES
                ('Cairngorm'), ('Milk Quartz'), ('Milky Quartz'), ('Quartzite')
                , ('Quartz'), ('Chrysoberyl'), ('Beryl'), ('Satin Spar')
                , ('Desert Rose'), ('Spectrolite'), ('Agate')

-- Adding data to SourceList table
INSERT INTO SourceList(CrystalID, SourceID)
        VALUES
                ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Italy'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Greenland'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Finland'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Canada'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Scandinavia'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'France'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Madagascar'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Britain'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Africa'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Britain'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT SourceID FROM Source WHERE SourceCountry = 'Czech Republic'))
```

```sql
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Slovakia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Peru'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Iceland'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Romania'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Worldwide'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Worldwide'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'South Africa'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Japan'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Madagascar'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Myanmar'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Canada'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Ghana'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Norway'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Zimbabwe'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Worldwide'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Mexico'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
```

```sql
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Ireland'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Zimbabwe'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Afghanistan'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Pakistan'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Brazil'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Myanmar'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Canada'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Ghana'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Norway'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Zimbabwe'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Mexico'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Russia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Austria'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Greece'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Poland'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Germany'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'France'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'England'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Sri Lanka'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'United States'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Mexico'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'India'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'Australia'))
, ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
(SELECT SourceID FROM Source WHERE SourceCountry = 'South Africa'))
```

```sql
-- Adding data to ColorList table
INSERT INTO ColorList(CrystalID, ColorID)
        VALUES
                ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Brown-yellow') AND (Appearance
= 'Banded, slightly shiny'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Pink') AND (Appearance =
'Banded, slightly shiny'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Blue') AND (Appearance =
'Banded, slightly shiny'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Red') AND (Appearance =
'Banded, slightly shiny'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT ColorID FROM Color WHERE Color = 'Grayish to black with blue,
yellow'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT ColorID FROM Color WHERE Color = 'Yellow to yellowish brown'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT ColorID FROM Color WHERE Color = 'Smoky gray-brown'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT ColorID FROM Color WHERE Color = 'Clear'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Yellow') AND (Appearance =
'Transparent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Blue') AND (Appearance =
'Transparent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Brown') AND (Appearance =
'Transparent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Pink') AND (Appearance =
'Transparent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Red') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Orange') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Pink') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Brown') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Green') AND (Appearance =
'Transparent or translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Blue') AND (Appearance =
'Transparent or translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Red') AND (Appearance =
'Transparent or translucent'))))
```

```sql
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Yellow') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Brown') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
            (SELECT ColorID FROM Color WHERE ((Color = 'White') AND (Appearance =
'Milky'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
            (SELECT ColorID FROM Color WHERE Color = 'Brownish to blackish'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
            (SELECT ColorID FROM Color WHERE Color = 'Yellowish'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Pink') AND (Appearance =
'Translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
            (SELECT ColorID FROM Color WHERE Color = 'Golden yellow'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
            (SELECT ColorID FROM Color WHERE Color = 'Yellow with brown'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
            (SELECT ColorID FROM Color WHERE Color = 'Green with red'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
            (SELECT ColorID FROM Color WHERE Color = 'Green with red'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Red') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Pink') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Green') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Orange') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Yellow') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Brown') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Black') AND (Appearance =
'Transparent or translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
            (SELECT ColorID FROM Color WHERE Color = 'Green-blue'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Pure white') AND (Appearance =
'Translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Orange') AND (Appearance =
'Translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
            (SELECT ColorID FROM Color WHERE ((Color = 'Blue') AND (Appearance =
'Translucent'))))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
```

```sql
                (SELECT ColorID FROM Color WHERE ((Color = 'Brown') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Green') AND (Appearance =
'Translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT ColorID FROM Color WHERE ((Color = 'White') AND (Appearance =
'Milky, translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Cream') AND (Appearance =
'Milky, translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Yellow') AND (Appearance =
'Milky, translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Blue') AND (Appearance =
'Milky, translucent'))))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT ColorID FROM Color WHERE ((Color = 'Green') AND (Appearance =
'Milky, translucent'))))

-- Adding data to RarityList table
INSERT INTO RarityList(CrystalID, RarityID)
        VALUES
                ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Readily available'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Rare'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Expensive'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Common'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Common'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Readily available'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Expensive'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Rare'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Common'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Readily available'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))
                , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
                (SELECT RarityID FROM Rarity WHERE Rarity = 'Easily obtained'))

-- Adding data to MysticalPropertyList table
```

```sql
INSERT INTO MysticalPropertyList(CrystalID, MysticalPropID)
       VALUES
              ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Energizing'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Tiger's Eye'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Grounding'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Stress
relief'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Blood
pressure'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Healing'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Abundance'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Protection'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Hormones'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Abundance'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Diamond'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Amplifier'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Grounding'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Carnelian'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Protection'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Abundance'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Birthing'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Learning'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Amplifier'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Let
go'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
              (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Grounding'))
              , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
```

```sql
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Positivity'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Love'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Positivity'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Dispels'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Grounding'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Centers'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Regenerative'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Energizing'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Garnet'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Sex'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Calming'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Aquamarine'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName = 'Stress
relief'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Centers'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Calming'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Learning'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Hormones'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moonstone'),
            (SELECT MysticalPropID FROM MysticalProperty WHERE MystPropName =
'Calming'))

-- Adding data to OtherNameList table
INSERT INTO OtherNameList(CrystalID, OtherNameID)
      VALUES
            ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Labradorite'),
            (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Spectrolite'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Citrine'),
            (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Cairngorm'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Moss Agate'),
            (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Agate'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
            (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Milk Quartz'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
```

```sql
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Milky Quartz'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Quartz'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Snow Quartz'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Quartzite'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Smoky Quartz'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Quartz'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Rose Quartz'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Quartz'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Chrysoberyl'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Cat's Eye'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Beryl'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Chrysoberyl'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Alexandrite'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Beryl'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Satin Spar'))
            , ((SELECT CrystalID FROM Crystal WHERE CrystalName = 'Selenite'),
                (SELECT OtherNameID FROM OtherName WHERE OtherName = 'Desert Rose'))


-- Updating a CrystalName in the Crystal table
UPDATE Crystal SET CrystalName = 'Black Moonstone' WHERE CrystalName = 'Moonstone'



-- Select statements to answer data questions

-- How many crystals do I own?
SELECT COUNT(CrystalID) as NumberOfCrystals FROM Crystal



-- How many types of rare crystals do I own?
SELECT
        Rarity.Rarity
        , COUNT(RarityList.RarityID) as RarityCount
FROM RarityList
JOIN Rarity ON Rarity.RarityID = RarityList.RarityID
GROUP BY
        Rarity.Rarity
ORDER BY RarityCount DESC




SELECT
        Crystal.CrystalName
        , Rarity.Rarity
FROM Crystal
JOIN RarityList ON RarityList.CrystalID = Crystal.CrystalID
JOIN Rarity ON Rarity.RarityID = RarityList.RarityID
WHERE Rarity.Rarity = 'Rare'
GROUP BY
        Crystal.CrystalName
        , Rarity.Rarity
```

```sql
-- What crystals have protection properties?
SELECT
        Crystal.CrystalName
        , MysticalProperty.MystPropName
FROM Crystal
JOIN MysticalPropertyList ON MysticalPropertyList.CrystalID = Crystal.CrystalID
JOIN MysticalProperty ON MysticalProperty.MysticalPropID =
MysticalPropertyList.MysticalPropID
WHERE MysticalProperty.MystPropName = 'Protection'
GROUP BY
        Crystal.CrystalName
        , MysticalProperty.MystPropName




-- What crystals have healing properties?
SELECT
        Crystal.CrystalName
        , MysticalProperty.MystPropName
FROM Crystal
JOIN MysticalPropertyList ON MysticalPropertyList.CrystalID = Crystal.CrystalID
JOIN MysticalProperty ON MysticalProperty.MysticalPropID =
MysticalPropertyList.MysticalPropID
WHERE MysticalProperty.MystPropName = 'Healing'
GROUP BY
        Crystal.CrystalName
        , MysticalProperty.MystPropName




-- What source do most of my crystals originate from?
SELECT
        Source.SourceCountry
        , Source.SourceContinent
        , COUNT(SourceList.SourceListID) as SourceCount
FROM Source
JOIN SourceList ON SourceList.SourceID = Source.SourceID
GROUP BY
        Source.SourceCountry
        , Source.SourceContinent
ORDER BY SourceCount DESC




-- Creating some Views

-- View of Rare Crystals
CREATE VIEW RareCrystals AS
        SELECT
                Crystal.CrystalName
                , Rarity.Rarity
        FROM Crystal
        JOIN RarityList ON RarityList.CrystalID = Crystal.CrystalID
        JOIN Rarity ON Rarity.RarityID = RarityList.RarityID
        WHERE Rarity.Rarity = 'Rare'
        GROUP BY
```

```sql
            Crystal.CrystalName
          , Rarity.Rarity

SELECT * FROM RareCrystals

-- View of Source Country Count
CREATE VIEW SourceCountryCount AS
      SELECT
      Source.SourceCountry
      , Source.SourceContinent
      , COUNT(SourceList.SourceListID) as SourceCount
      FROM Source
      JOIN SourceList ON SourceList.SourceID = Source.SourceID
      GROUP BY
      Source.SourceCountry
      , Source.SourceContinent

SELECT * FROM SourceCountryCount
```

GUI Mock Up

The Crystal Library

Insert New Crystal	Add Info to Crystal	Search Crystals
Name	Select Crystal	Search by Name
Other Name	Add Other Name	Search by Source Country
Source	Add Source	Search by Source Continent
Color	Add Color	Search by Color
Rarity	Add Rarity	Search by Rarity
Mystical Property	Add Mystical Property	Search by Mystical Property
INSERT	ADD INFO	SEARCH

In this first version of the GUI mock up, you can only add one value for each category in the "Insert New Crystal" form. Future versions may support multiple entries, which would just be more boxes. Right now, a single entry will suffice when paired with the "Add Info to Crystal" form. Inserting a new crystal will then display the added crystal in a table view.

The "Add Info to Crystal" form is for adding additional information. The "Select Crystal" will be a drop-down box with all the existing crystal names. A future version may support typing into the "Select Crystal" box and a drop-down will automatically appear with the names that match your search term. The "Select Crystal" box will include "other name" values. Adding information to a crystal will then display the added information in a table view.

The "Search Crystals" form will all be drop-down boxes in the first version with similar plans to support typing into the boxes. You can search by just one category, or combine multiple categories. For examples, searching for crystals that originate from North America, or searching for blue crystals that are common. All search results will display in a table view.