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CSC 6302 Database Principles and Design
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Project 2

/* Part 1 */

USE VideoGameSystems;

INSERT INTO Game(GameName, ReleaseDate, ConsoleName, NumPlayers, IsOnline)
VALUES ("Ratchet & Clank: Going Commando", "2003-11-11", "Play Station 2", "1", False);

INSERT INTO Game(GameName, ReleaseDate, ConsoleName, NumPlayers, IsOnline)
VALUES ("Metal Gear Solid 3: Snake Eater", "2004-11-17", "Play Station 2", "1", False);

INSERT INTO Game(GameName, ReleaseDate, ConsoleName, NumPlayers, IsOnline)
VALUES ("God of War", "2018-04-20", "Play Station 4", "1", True);

/* Part 2 */

/* a */

SELECT * FROM Game WHERE ConsoleName="Play Station";
/* Spyro the Dragon, 1998-09-09 */

/* b */

SELECT * FROM Game WHERE NumPlayers IS NULL;
UPDATE Game SET NumPlayers = 1 WHERE GameName = "Spyro the Dragon";
UPDATE Game SET NumPlayers = 1 WHERE GameName = "Animal Crossing";
UPDATE Game SET NumPlayers = 2 WHERE GameName = "Sonic the Hedgehog";
UPDATE Game SET NumPlayers = 2 WHERE GameName = "Sonic the Heghehog 2";

/* c */

SELECT * FROM Game WHERE ReleaseDate < '2000-01-01';
/* # Id GameName ReleaseDate ConsoleName

9	Yoshi	1991-04-01	Nintendo Entertainment System
10	Yoshi's Cookie	1992-06-23	Nintendo Entertainment System
11	Yoshi's Safari	1995-01-21	Super Nintendo
12	Yoshi's Island	1995-11-19	Super Nintendo
13	Yoshi's Story	1997-04-07	Nintendo 64
18	Poochy and Yoshi's Woolly World	1991-11-09	Nintendo 3DS
36	Sonic the Hedgehog	1991-11-09	Sega Genesis
37	Sonic the Hedgehog 2	1992-11-09	Sega Genesis

38	Sonic the Hedgehog	31994-11-21	Sega Genesis
39	Sonic Adventures	1991-11-09	Sega Dreamcast
40	Sonic Adventure 2 Battle	1998-11-13	Game Cube
48	Spyro the Dragon	1998-09-09	Play Station

*/

SELECT

Game.GameName,
Game.ConsoleName,
Series.SeriesName

FROM Game

JOIN Series ON Game.Series = Series.Id

WHERE Game.ReleaseDate BETWEEN '1995-01-01' AND '2016-01-01';

/* # GameName ConsoleName SeriesName

Animal Crossing Nintendo 64 Animal Crossing

Wild World Nintendo DS Animal Crossing

City Folk Wii Animal Crossing

New Leaf Nintendo 3DS Animal Crossing

Happy Home Designer Nintendo 3DS Animal Crossing

Amiibo Festival Wii U Animal Crossing

Call of Duty XBox 360 Call of Duty

Call of Duty Play Station 3 Call of Duty

Call of Duty 2 XBox 360 Call of Duty

Call of Duty 3 Play Station 2 Call of Duty

Call of Duty 3 Play Station 3 Call of Duty

Call of Duty 3 Wii Call of Duty

Call of Duty 3 XBox Call of Duty

Call of Duty 3 XBox 360 Call of Duty

Call of Duty 4 Nintendo DS Call of Duty

Call of Duty 4: Modern Warfare XBox Call of Duty

Call of Duty 4: Modern Warfare Play Station 3 Call of Duty

Call of Duty 4: Modern Warfare Wii Call of Duty

Call of Duty: World at War XBox 360 Call of Duty

Call of Duty: World at War Nintendo DS Call of Duty

Call of Duty: World at War Play Station 3 Call of Duty

Call of Duty: World at War Wii Call of Duty

Sonic Adventure 2 Battle Game Cube Sonic

Sonic Heroes Play Station 2 Sonic

Sonic Heroes XBox Sonic

Sonic Heroes Game Cube Sonic

Sonic Unleashed Play Station 2 Sonic

Sonic Unleashed Wii Sonic

Sonic Unleashed XBox 360 Sonic

Sonic Unleashed Play Station 3 Sonic

Spyro the Dragon Play Station Spyro

Spyro's Adventure Wii Spyro

Spyro's Adventure Nintendo DS Spyro

Spyro's Adventure Play Station 3 Spyro

Spyro's Adventure Wii U Spyro
 Spyro's Adventure XBox 360 Spyro
 */

/* e */

SELECT *

FROM Game

WHERE ConsoleName LIKE "Play Station%";

/*

#	Id	GameName	ReleaseDate	ConsoleName	Series	NumPlayers	IsOnline
1.	48	Spyro the Dragon	1998-09-09	Play Station	7		
2.	23	Call of Duty 3	2006-11-07	Play Station	2	4	
3.	41	Sonic Heroes	2003-11-09	Play Station	2	6	
4.	44	Sonic Unleashed	2008-06-29	Play Station	2	6	
5.	54	Ratchet & Clank: Going Commando	2003-11-11	Play Station	2		1
6.	55	Metal Gear Solid 3: Snake Eater	2004-11-17	Play Station	2		1
7.	21	Call of Duty	2003-10-29	Play Station	3	4	
8.	24	Call of Duty 3	2006-11-07	Play Station	3	4	
9.	30	Call of Duty 4: Modern Warfare	2007-11-06	Play Station	3	4	
10.	34	Call of Duty: World at War	2011-11-11	Play Station	3	4	
11.	47	Sonic Unleashed	2008-06-29	Play Station	3	6	
12.	51	Spyro's Adventure	2011-10-13	Play Station	3	7	
13.	56	God of War	2018-04-20	Play Station	4		1

*/

/* f */

SELECT *

FROM Game

WHERE ConsoleName NOT LIKE "Play Station%";

/*	#	Id	GameName	ReleaseDate	ConsoleName	Series	NumPlayers	IsOnline
	1		Animal Crossing	2001-04-14	Nintendo 64	1	1	
	2		Wild World	2005-11-15	Nintendo DS	1		
	3		City Folk	2011-11-09	Wii	1		
	4		New Leaf	2013-06-12	Nintendo 3DS	1		
	5		Happy Home Designer	2015-07-05	Nintendo 3DS	1		
	6		Amiibo Festival	2015-11-13	Wii U	1		
	7		New Horizons	2020-03-20	Switch	1		
	8		New Horizons Happy Home Paradise	2021-11-05	Switch	1		1
	9		Yoshi	1991-04-01	Nintendo Entertainment System			
	10		Yoshi's Cookie	1992-06-23	Nintendo Entertainment System			
	11		Yoshi's Safari	1995-01-21	Super Nintendo			
	12		Yoshi's Island	1995-11-19	Super Nintendo			
	13		Yoshi's Story	1997-04-07	Nintendo 64			
	14		Yoshi's Universal Gravitation	2004-11-09	Game Boy Advance			
	15		Yoshi Touch and Go	2005-12-27	Nintendo DS			
	16		Yoshi's Woolly World	2015-06-15	Wii U			
	17		Yoshi's Island	2016-11-13	Nintendo DS			
	18		Poochy and Yoshi's Woolly World	1991-11-09	Nintendo 3DS			
	19		Yoshi's Crafted World	2019-03-29	Switch			

20	Call of Duty	2003-10-29	XBox 360	4
22	Call of Duty 2	2005-10-25	XBox 360	4
25	Call of Duty 3	2006-11-07	Wii	4
26	Call of Duty 3	2006-11-07	XBox	4
27	Call of Duty 3	2006-11-07	XBox 360	4
28	Call of Duty 4	2006-11-07	Nintendo DS	4
29	Call of Duty 4: Modern Warfare	2007-11-06	XBox	4
31	Call of Duty 4: Modern Warfare	2007-11-06	Wii	4
32	Call of Duty: World at War	2011-11-11	XBox 360	4
33	Call of Duty: World at War	2011-11-11	Nintendo DS	4
35	Call of Duty: World at War	2011-11-11	Wii	4
36	Sonic the Hedgehog	1991-11-09	Sega Genesis	6
37	Sonic the Hedgehog 2	1992-11-09	Sega Genesis	6
38	Sonic the Hedgehog 3	1994-11-21	Sega Genesis	6
39	Sonic Adventures	1991-11-09	Sega Dreamcast	6
40	Sonic Adventure 2 Battle	1998-11-13	Game Cube	6
42	Sonic Heroes	2003-11-09	XBox	6
43	Sonic Heroes	2003-11-09	Game Cube	6
45	Sonic Unleashed	2008-06-29	Wii	6
46	Sonic Unleashed	2008-06-29	XBox 360	6
49	Spyro's Adventure	2011-10-13	Wii	7
50	Spyro's Adventure	2011-10-13	Nintendo DS	7
52	Spyro's Adventure	2011-10-13	Wii U	7
53	Spyro's Adventure	2011-10-13	XBox 360	7

*/

/* Part 3 */

/* a */

ALTER TABLE Game DROP CONSTRAINT ValidGameReleaseDate;

ALTER TABLE Game

ADD CONSTRAINT ValidGameReleaseDate

CHECK (ReleaseDate BETWEEN '1975-08-12' AND '2023-11-01');

/* b */

INSERT INTO Game(GameName, ReleaseDate, ConsoleName, NumPlayers, IsOnline)
VALUES ("Armored Core VI", "2023-08-25", "Play Station 4", "1", True);

/* Part 4 */

USE MealPlanning;

/* a */

SELECT r.RecipeName,

```

        r.CookbookName,
        COUNT(m.IngredientID) AS NumberOfIngredients
FROM Recipe r
JOIN Meal m ON r.RecipeName = m.RecipeName
GROUP BY r.RecipeName, r.CookbookName
ORDER BY NumberOfIngredients, r.RecipeName, r.CookbookName;
/*# RecipeName      CookbookName      NumberOfIngredients
Chicken Stew Dude Diet      5
Fajitas Dude Diet      6
Stuffing      Domesticate Me      6
Stir Fry      Dude Diet Dinner      7
*/

```

```

/* b */
SELECT
    Recipe.RecipeName,
    Recipe.CookbookName
FROM Recipe
WHERE Recipe.RecipeName NOT IN (
    SELECT Meal.RecipeName
    FROM Meal
    WHERE Meal.IngredientId IN (
        SELECT Ingredients.Id
        FROM Ingredients
        WHERE Ingredients.IngredientName LIKE '%Pepper%'
    )
)
GROUP BY Recipe.RecipeName, Recipe.CookbookName;
/*# RecipeName      CookbookName
Stuffing      Domesticate Me
*/

```

```

/* Part 5 */
/* a */
DROP DATABASE IF EXISTS MealPlanning;
CREATE DATABASE MealPlanning;
USE MealPlanning;

CREATE TABLE Cookbook (
    CookbookName varchar(200) NOT NULL,
    IsBook bool NOT NULL,
    Website varchar(200),
    PRIMARY KEY (CookbookName)
);

```

```
CREATE TABLE Recipe (  
    RecipeName varchar(100) NOT NULL,  
    CookbookName varchar(200) NOT NULL,  
    TotalServings int,  
    PRIMARY KEY (RecipeName),  
    FOREIGN KEY (CookbookName) REFERENCES Cookbook (CookbookName) ON UPDATE  
    CASCADE ON DELETE CASCADE  
);
```

```
CREATE TABLE Ingredients (  
    Id int NOT NULL AUTO_INCREMENT,  
    IngredientName varchar(100) NOT NULL,  
    IngredientType varchar(100),  
    PRIMARY KEY (Id)  
);
```

```
CREATE TABLE Allergens (  
    Id int NOT NULL AUTO_INCREMENT,  
    AllergenName varchar(100) NOT NULL,  
    PRIMARY KEY (Id)  
);
```

```
CREATE TABLE IngredientAllergens (  
    IngredientId int NOT NULL,  
    AllergenId int NOT NULL,  
    PRIMARY KEY (IngredientId, AllergenId),  
    FOREIGN KEY (IngredientId) REFERENCES Ingredients (Id) ON UPDATE CASCADE ON  
    DELETE CASCADE,  
    FOREIGN KEY (AllergenId) REFERENCES Allergens (Id) ON UPDATE CASCADE ON  
    DELETE CASCADE  
);
```

```
CREATE TABLE Meal (  
    RecipeName varchar(100) NOT NULL,  
    IngredientId int NOT NULL,  
    PRIMARY KEY (RecipeName, IngredientId),  
    FOREIGN KEY (RecipeName) REFERENCES Recipe (RecipeName) ON UPDATE CASCADE  
    ON DELETE CASCADE,  
    FOREIGN KEY (IngredientId) REFERENCES Ingredients (Id) ON UPDATE CASCADE ON  
    DELETE CASCADE  
);
```

/* b */

