

Part 1A

-- 1(a)

country_code	country_name	gdp	inflation
CAN	CANADA	1643407000.98	4.10
GUA	GUATEMALA	77604632.17	3.67
USA	UNITED STATES	209036600.00	3.40

3 rows in set (0.00 sec)

-- 1(b)

country_code	country_name	inflation	province_name	gdp
CAN	CANADA	4.10	British-Columbia	1643407000.98
CAN	CANADA	4.10	Manitoba	1643407000.98
CAN	CANADA	4.10	Quebec	1643407000.98
MEX	MEXICO	6.00	Jalisco	1076130.32
MEX	MEXICO	6.00	Sinaloa	1076130.32
MEX	MEXICO	6.00	Tobasco	1076130.32

6 rows in set (0.00 sec)

-- 1(c)

country_code	country_name	inflation	province_name	gdp
CAN	CANADA	4.10	British-Columbia	1643407000.98
CAN	CANADA	4.10	Manitoba	1643407000.98
CAN	CANADA	4.10	Quebec	1643407000.98
MEX	MEXICO	6.00	Jalisco	1076130.32
MEX	MEXICO	6.00	Sinaloa	1076130.32
MEX	MEXICO	6.00	Tobasco	1076130.32

6 rows in set (0.00 sec)

-- 1(d)

country_code	country_name	province_name	area
MEX	MEXICO	Jalisco	2479.970
CAN	CANADA	Quebec	24860.800
USA	UNITED STATES	Delaware	5133.360
GUA	GUATEMALA	Zacapa	5133.360
GUA	GUATEMALA	Escuintla	2784.970
MEX	MEXICO	Tobasco	5133.360
MEX	MEXICO	Sinaloa	2407.800
USA	UNITED STATES	Oregon	248607.800

36/40

P:✓

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53 | CAN          | CANADA          | British-Columbia | 2879.970 |
54 | USA          | UNITED STATES   | Washington        | 278479.970 |
55 | CAN          | CANADA          | Manitoba          | 51333.360 |
56 +-----+-----+-----+-----+
57 11 rows in set (0.00 sec)
58
59 -- 1(e)
60 +-----+-----+-----+-----+
61 | country_code | country_name | province_name | area |
62 +-----+-----+-----+-----+
63 | MEX          | MEXICO       | Jalisco       | 2479.970 |
64 | CAN          | CANADA       | Quebec        | 24860.800 |
65 | USA          | UNITED STATES | Delaware       | 5133.360 |
66 | GUA          | GUATEMALA    | Zacapa        | 5133.360 |
67 | GUA          | GUATEMALA    | Escuintla     | 2784.970 |
68 | MEX          | MEXICO       | Tobasco       | 5133.360 |
69 | MEX          | MEXICO       | Sinaloa       | 2407.800 |
70 | USA          | UNITED STATES | Oregon        | 248607.800 |
71 | CAN          | CANADA       | British-Columbia | 2879.970 |
72 | USA          | UNITED STATES | Washington     | 278479.970 |
73 | CAN          | CANADA       | Manitoba       | 51333.360 |
74 +-----+-----+-----+-----+
75 11 rows in set (0.00 sec)
76
77 -- 1(f)
78 +-----+-----+-----+-----+
79 | country_code | country_name | province_name | area |
80 +-----+-----+-----+-----+
81 | MEX          | MEXICO       | Jalisco       | 2479.970 |
82 | CAN          | CANADA       | Quebec        | 24860.800 |
83 | USA          | UNITED STATES | Delaware       | 5133.360 |
84 | GUA          | GUATEMALA    | Zacapa        | 5133.360 |
85 | GUA          | GUATEMALA    | Escuintla     | 2784.970 |
86 | MEX          | MEXICO       | Tobasco       | 5133.360 |
87 | MEX          | MEXICO       | Sinaloa       | 2407.800 |
88 | USA          | UNITED STATES | Oregon        | 248607.800 |
89 | CAN          | CANADA       | British-Columbia | 2879.970 |
90 | USA          | UNITED STATES | Washington     | 278479.970 |
91 | CAN          | CANADA       | Manitoba       | 51333.360 |
92 +-----+-----+-----+-----+
93 11 rows in set (0.00 sec)
94
95 -- 1(g)
96 +-----+-----+-----+-----+
97 | country_code | country_name | province_name | area |
98 +-----+-----+-----+-----+
99 | MEX          | MEXICO       | Jalisco       | 2479.970 |
100 | CAN          | CANADA       | Quebec        | 24860.800 |
101 | USA          | UNITED STATES | Delaware       | 5133.360 |
102 | GUA          | GUATEMALA    | Zacapa        | 5133.360 |
103 | GUA          | GUATEMALA    | Escuintla     | 2784.970 |
104 | MEX          | MEXICO       | Tobasco       | 5133.360 |

```

105		MEX		MEXICO		Sinaloa		2407.800	
106		USA		UNITED STATES		Oregon		248607.800	
107		CAN		CANADA		British-Columbia		2879.970	
108		USA		UNITED STATES		Washington		278479.970	
109		CAN		CANADA		Manitoba		51333.360	

110 +-----+-----+-----+

111 11 rows in set (0.00 sec)

112

113 -- 1(h)

115		city_name		province_name		country_code	
116							
117		Arden		Delaware		USA	
118		Eugene		Oregon		USA	
119		Spokane		Washington		USA	
120		Vacouver		British-Columbia		CAN	
121		Elota		Sinaloa		MEX	
122		Happy Valley		Oregon		USA	
123		Pihuamo		Jalisco		MEX	
124		Pike Creek		Delaware		USA	
125		Villahermosa		Tobasco		MEX	
126		Walla Wall		Washington		USA	
127		Acatic		Jalisco		MEX	
128		Cardenas		Tobasco		MEX	
129		Vacouver		British-Columbia		CAN	
130		Lorraine		Quebec		CAN	
131		Rossland		British-Columbia		CAN	
132		Lorraine		Quebec		CAN	
133		Rossland		British-Columbia		CAN	
134		Delta		British-Columbia		CAN	
135		Steinbach		Manitoba		CAN	
136		Delta		British-Columbia		CAN	
137		Steinbach		Manitoba		CAN	
138		Arden		Delaware		USA	
139		Eugene		Oregon		USA	
140		Spokane		Washington		USA	
141		Vacouver		British-Columbia		CAN	
142		Zunil		Quetzaltenango		GUA	
143		Portland		Oregon		USA	
144		Seattle		Washington		USA	
145		Wilmington		Delaware		USA	
146		Brito		Escuintla		GUA	
147		Capucal		Zacapa		GUA	
148		Ostuncalco		Quetzaltenango		GUA	
149		Amos		Quebec		CAN	
150		Happy Valley		Oregon		USA	
151		Pike Creek		Delaware		USA	
152		Walla Wall		Washington		USA	
153		Acatic		Jalisco		MEX	
154		Cardenas		Tobasco		MEX	
155		Vacouver		British-Columbia		CAN	
156		Amos		Quebec		CAN	

157	Elota	Sinaloa	MEX	Happy Valley	Oregon	USA	90000
158	Pihuamo	Jalisco	MEX	Happy Valley	Oregon	USA	90000
159	Villahermosa	Tobasco	MEX	Happy Valley	Oregon	USA	90000
160	Arenal	Zacapa	GUA	Lorraine	Quebec	CAN	1500
161	Baul	Escuintla	GUA	Lorraine	Quebec	CAN	1500
162	Delta	British-Columbia	CAN	Ostuncalco	Quetzaltenango	GUA	900
163	Steinbach	Manitoba	CAN	Ostuncalco	Quetzaltenango	GUA	900
164	Amos	Quebec	CAN	Pihuamo	Jalisco	MEX	90000
165	Happy Valley	Oregon	USA	Pihuamo	Jalisco	MEX	90000
166	Pike Creek	Delaware	USA	Pihuamo	Jalisco	MEX	90000
167	Walla Wall	Washington	USA	Pihuamo	Jalisco	MEX	90000
168	Amos	Quebec	CAN	Pike Creek	Delaware	USA	90000
169	Elota	Sinaloa	MEX	Pike Creek	Delaware	USA	90000
170	Pihuamo	Jalisco	MEX	Pike Creek	Delaware	USA	90000
171	Villahermosa	Tobasco	MEX	Pike Creek	Delaware	USA	90000
172	Comalcalco	Tobasco	MEX	Portland	Oregon	USA	150000
173	San Marcos	Jalisco	MEX	Portland	Oregon	USA	150000
174	Arenal	Zacapa	GUA	Rossland	British-Columbia	CAN	1500
175	Baul	Escuintla	GUA	Rossland	British-Columbia	CAN	1500
176	Portland	Oregon	USA	San Marcos	Jalisco	MEX	150000
177	Seattle	Washington	USA	San Marcos	Jalisco	MEX	150000
178	Wilmington	Delaware	USA	San Marcos	Jalisco	MEX	150000
179	Comalcalco	Tobasco	MEX	Seattle	Washington	USA	150000
180	San Marcos	Jalisco	MEX	Seattle	Washington	USA	150000
181	Acatic	Jalisco	MEX	Spokane	Washington	USA	115000
182	Cardenas	Tobasco	MEX	Spokane	Washington	USA	115000
183	Vacouver	British-Columbia	CAN	Spokane	Washington	USA	115000
184	Brito	Escuintla	GUA	Steinbach	Manitoba	CAN	900
185	Capucal	Zacapa	GUA	Steinbach	Manitoba	CAN	900
186	Ostuncalco	Quetzaltenango	GUA	Steinbach	Manitoba	CAN	900
187	Acatic	Jalisco	MEX	Vacouver	British-Columbia	CAN	115000
188	Arden	Delaware	USA	Vacouver	British-Columbia	CAN	115000
189	Cardenas	Tobasco	MEX	Vacouver	British-Columbia	CAN	115000
190	Eugene	Oregon	USA	Vacouver	British-Columbia	CAN	115000
191	Spokane	Washington	USA	Vacouver	British-Columbia	CAN	115000
192	Amos	Quebec	CAN	Villahermosa	Tobasco	MEX	90000
193	Happy Valley	Oregon	USA	Villahermosa	Tobasco	MEX	90000
194	Pike Creek	Delaware	USA	Villahermosa	Tobasco	MEX	90000
195	Walla Wall	Washington	USA	Villahermosa	Tobasco	MEX	90000
196	Amos	Quebec	CAN	Walla Wall	Washington	USA	90000
197	Elota	Sinaloa	MEX	Walla Wall	Washington	USA	90000
198	Pihuamo	Jalisco	MEX	Walla Wall	Washington	USA	90000
199	Villahermosa	Tobasco	MEX	Walla Wall	Washington	USA	90000
200	Comalcalco	Tobasco	MEX	Wilmington	Delaware	USA	150000
201	San Marcos	Jalisco	MEX	Wilmington	Delaware	USA	150000
202	Choix	Sinaloa	MEX	Zunil	Quetzaltenango	GUA	100

86 rows in set (0.01 sec)

-- 1(i)

country_code	country_name
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```

209 +-----+-----+
210 | USA          | UNITED STATES |
211 +-----+-----+
212 1 row in set (0.00 sec)
213
214 -- 1(j)
215 +-----+-----+
216 | country_code | country_name |
217 +-----+-----+
218 | USA          | UNITED STATES |
219 +-----+-----+
220 1 row in set (0.00 sec)
221
222 =====
223 Part 1B
224 =====
225 -- 2(a)
226 +-----+-----+
227 | item_num | set_name |
228 +-----+-----+
229 |      1005 | Lego City Minifig Pack |
230 +-----+-----+
231 1 row in set (0.00 sec)
232
233 -- 2(b)
234 +-----+-----+
235 | item_num | set_name |
236 +-----+-----+
237 |      1001 | Jabba's Palace |
238 |      1002 | Space Shuttle |
239 |      1003 | Captain Jack's Ship |
240 |      1005 | Lego City Minifig Pack |
241 |      1006 | Autzen Stadium |
242 +-----+-----+
243 5 rows in set (0.00 sec)
244
245 -- 2(c)
246 +-----+-----+
247 | item_num | set_name |
248 +-----+-----+
249 |      1001 | Jabba's Palace |
250 |      1003 | Captain Jack's Ship |
251 +-----+-----+
252 2 rows in set (0.00 sec)
253
254 -- 2(d)
255 +-----+-----+
256 | item_num | set_name |
257 +-----+-----+
258 |      1006 | Autzen Stadium |
259 +-----+-----+
260 1 row in set (0.00 sec)

```

```

261 -- 2(e)
262
263 +-----+-----+
264 | item_num | set_name |
265 +-----+-----+
266 |      1001 | Jabba's Palace |
267 |      1004 | Gas Station |
268 +-----+-----+
269 2 rows in set (0.00 sec)
270
271 -- 2(f)
272
273 +-----+-----+
274 | item_num | set_name |
275 +-----+-----+
276 |      1001 | Jabba's Palace |
277 |      1003 | Captain Jack's Ship |
278 |      1006 | Autzen Stadium |
279 +-----+-----+
280 3 rows in set (0.00 sec)
281
282 -- 2(g)
283
284 +-----+-----+
285 | item_num | set_name |
286 +-----+-----+
287 |      1001 | Jabba's Palace |
288 |      1002 | Space Shuttle |
289 |      1003 | Captain Jack's Ship |
290 |      1004 | Gas Station |
291 |      1006 | Autzen Stadium |
292 +-----+-----+
293 5 rows in set (0.00 sec)
294
295 -- 2(h)
296
297 +-----+-----+-----+-----+
298 | item_num | set_name | brick_name | num_bricks |
299 +-----+-----+-----+-----+
300 |      1001 | Jabba's Palace | 2x4 Brick | 75 |
301 |      1001 | Jabba's Palace | 2x4 Brick | 45 |
302 |      1001 | Jabba's Palace | 2x2 Brick | 905 |
303 |      1001 | Jabba's Palace | 4x16 Plate | 75 |
304 |      1001 | Jabba's Palace | 1x4 Brick | 100 |
305 |      1001 | Jabba's Palace | 8x8 Flat | 185 |
306 |      1001 | Jabba's Palace | 2x4 Plate | 20 |
307 +-----+-----+-----+-----+
308 7 rows in set (0.00 sec)
309
310 +-----+-----+-----+-----+
311 | item_num | brick_name | num_bricks |
312 +-----+-----+-----+-----+
313 |      1001 | 2x4 Brick | 75 |
314 |      1001 | 2x2 Brick | 905 |
315 |      1001 | 4x16 Plate | 75 |

```

```

313 |      1001 | 1x4 Brick |      100 |
314 |      1001 | 8x8 Flat |      185 |
315 |      1002 | 1x2 Brick |       64 |
316 |      1003 | 1x2 Brick |       75 |
317 |      1005 | 1x2 Brick |       89 |

```

```

318 +-----+-----+-----+

```

```

319 8 rows in set (0.00 sec)

```

```

320
321 +-----+-----+-----+
322 | elem_id | des_id | des_id |
323 +-----+-----+-----+
324 |      101 |      11 |      12 |
325 |      101 |      12 |      11 |
326 +-----+-----+-----+

```

```

327 2 rows in set (0.00 sec)

```

```

328
329 =====

```

```

330 Part 2

```

```

331 =====

```

```

332 +-----+-----+
333 | u_id | username |
334 +-----+-----+
335 |   101 | Zac    |
336 |   102 | Austin   |
337 |   103 | Lola     |
338 |   104 | Sadie    |
339 +-----+-----+

```

```

340 4 rows in set (0.00 sec)

```

```

341
342 +-----+-----+-----+
343 | a_id | a_name          | u_id |
344 +-----+-----+-----+
345 | 1001 | School Expenses | 101 |
346 | 1002 | Work Expenses   | 101 |
347 | 1003 | Gas Expenses    | 101 |
348 | 1004 | School expenses | 102 |
349 | 1005 | Team Expenses   | 103 |
350 | 1006 | Misc. Expenses  | 104 |
351 +-----+-----+-----+

```

```

352 6 rows in set (0.00 sec)

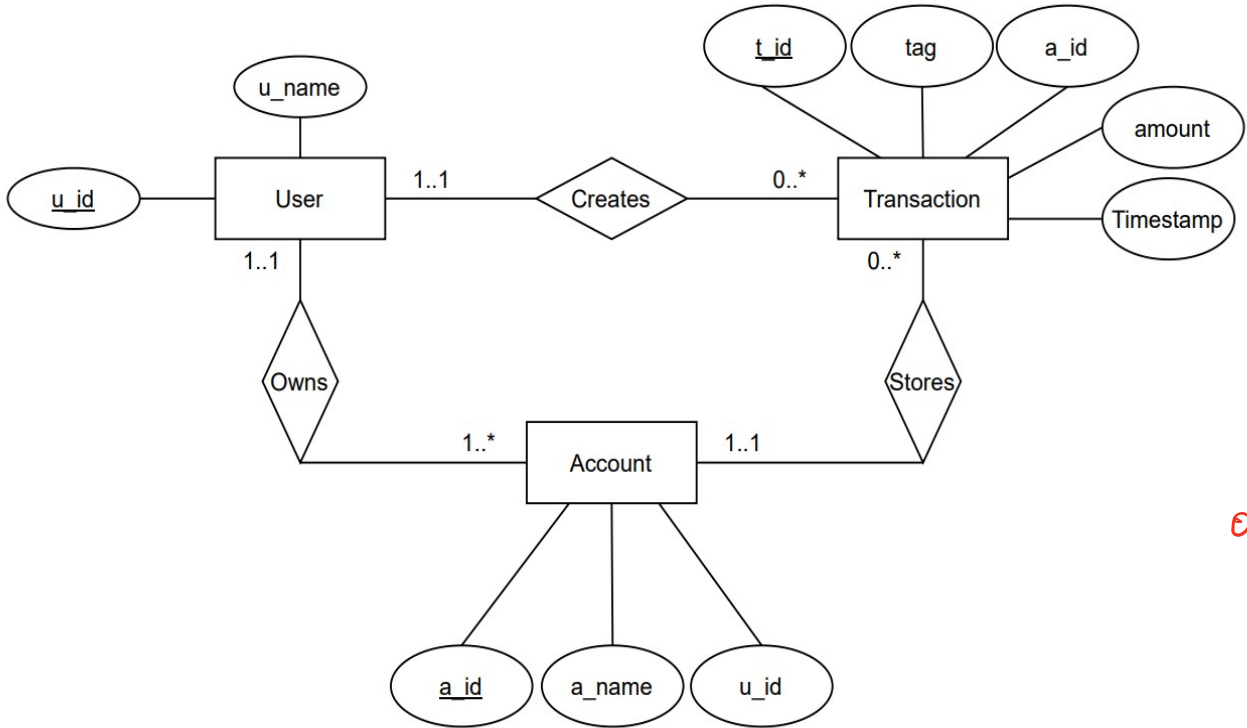
```

```

353
354 +-----+-----+-----+-----+-----+-----+
355 | t_id | tag              | a_id | amount | timestamp          | t_desc |
356 +-----+-----+-----+-----+-----+-----+
357 | 1 | Project Supplies | 1001 | 320.00 | 08/12/21 08:15:32 | Expenses for CPSC312 final project |
358 | 2 | Project Supplies | 1001 | 46.95  | 10/19/20 12:00:03 | Expenses for CPSC321 final project |
359 | 3 | Parking fines    | 1006 | 50.00  | 06/14/21 16:15:32 | Fine recieved on crossing of Sharp and Standard |
360 | 4 | Gas              | 1003 | 60.00  | 08/12/21 08:15:32 | Gas purchase at ARCO |
361 | 5 | Project Supplies | 1001 | 86.95  | 1/12/17 12:00:03  | Expenses for CPSC314 final project |
362 | 6 | Startup fees     | 1002 | 1005.00 | 06/14/21 16:15:32 | Fees invested in a startup |
363 | 7 | Salary           | 1004 | 32000.00 | 08/1/21 12:00:01  | Salary for pay period |
364 | 8 | Travel           | 1005 | 146.95 | 10/19/18 17:41:43 | Bus rental fee for team bus |

```

365 | 9 | Misc. Purchases | 1006 | 499.00 | 06/14/21 16:15:32 | New XBOX |
366 +-----+-----+-----+-----+-----+-----+-----+-----+-----+
367 9 rows in set (0.00 sec)



oh...


```

/*****
* NAME:          Zac Foteff
* CLASS:         CPSC321: Database Management Systems
* DATE:          10/24/2021
* HOMEWORK:      HW6
* DESCRIPTION:    Queries on the CIA factbook database created during HW5
*****/

```

-- Select statements for factbook table queries

-- 1(a)

```
SELECT * FROM Country as c WHERE (c.inflation < 5.0);
```

-- 1(b)

```
SELECT
```

```
    p.country_code,
    c.country_name,
    c.inflation,
    p.province_name,
    c.gdp
```

```
FROM
```

```
    Country as c,
    Province as p
```

```
WHERE
```

```
    (p.area < 120000) and
    (c.country_code=p.country_code) and
    (c.inflation > 4.0);
```

-- 1(c)

```
SELECT
```

```
    p.country_code,
    c.country_name,
    c.inflation,
    p.province_name,
    c.gdp
```

```
FROM
```

```
    Country as c JOIN Province as p ON (c.country_code=p.country_code)
```

```
WHERE
```

```
    (p.area < 120000) and (c.inflation > 4.0);
```

-- 1(d)

```
SELECT DISTINCT
```

```
    p.country_code,
    co.country_name,
    p.province_name,
    p.area
```

```
FROM
```

```
    City as c,
    Province as p,
    Country as co
```

```
WHERE
```

```
    (c.city_population > 1000) and
    (p.country_code=co.country_code) and
    (c.province_name=p.province_name);
```

e's country c

-- 1(e)

```
SELECT DISTINCT
```

```
    p.country_code,
    co.country_name,
    p.province_name,
    p.area
```

```

FROM
    City as c JOIN
    Province as p ON (c.province_name=p.province_name) JOIN
    Country as co ON (p.country_code=co.country_code)
WHERE
    (c.city_population > 1000);

```

```

-- 1(f)
SELECT DISTINCT
    p.country_code,
    co.country_name,
    p.province_name,
    p.area
FROM
    City as c1,
    City as c2,
    Province as p,
    Country as co
WHERE
    (p.country_code=co.country_code) and
    (c1.province_name=p.province_name) and
    (c2.province_name=p.province_name) and
    (c1.city_population > 1000) and
    (c2.city_population > 1000);

```

```

-- 1(g)
SELECT DISTINCT
    p.country_code,
    co.country_name,
    p.province_name,
    p.area
FROM
    City as c1 JOIN
    City as c2 JOIN
    Province as p ON (p.province_name=c1.province_name and p.province_name=c2.pr
ovince_name) JOIN
    Country as co ON (p.country_code=co.country_code)
WHERE
    (c1.city_population > 1000) and
    (c2.city_population > 1000);

```

```

-- 1(h)
SELECT DISTINCT
    c1.city_name,
    c1.province_name,
    c1.country_code,
    c2.city_name,
    c2.province_name,
    c2.country_code,
    c1.city_population
FROM
    City as c1 JOIN
    City as c2 ON (c1.city_population=c2.city_population)
WHERE
    (c1.province_name<>c2.province_name) and (c1.country_code<>c2.country_code);

```

```

-- 1(i)
SELECT DISTINCT
    c1.country_code,
    c1.country_name

```

& city name (1)

```

FROM
    Country as c1,
    Country as c2,
    Border as b
WHERE
    ((c1.inflation < 4.0) and
    (c1.gdp > 200000000)) and
    ((c2.inflation > 4.0) and
    (c2.gdp < 200000000)) and
    (b.country_code_1=c1.country_code) and
    (b.country_code_2=c2.country_code);

-- 1(j)
SELECT DISTINCT
    c1.country_code,
    c1.country_name
FROM
    Country as c1 JOIN
    Country as c2 ON ((c1.inflation < 4.0 and c1.gdp > 200000000) and (c2.inflati
on > 4.0 and c2.gdp < 200000000)) JOIN
    Border as b
WHERE
    (b.country_code_1=c1.country_code) and
    (b.country_code_2=c2.country_code);

```

① "reciprocal"

```

/*****
* NAME:          Zac Foteff
* CLASS:         CPSC321: Database Management Systems
* DATE:          10/24/2021
* HOMEWORK:      HW6
* DESCRIPTION:    Queries on the ongoing Lego database example from
                  previous homeworks
*****/
-- Select statements for Lego table queries
-- 2(a)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l JOIN
    PartsList as p ON (p.item_num=l.item_num)
WHERE
    (l.price < 25.00) and
    (p.num_bricks > 10);

-- 2(b)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l JOIN
    PartsList as p ON (p.item_num=l.item_num) JOIN
    Bricks as b ON (b.elem_id=p.elem_id)
WHERE
    (b.brick_color="Bright Blue" and b.brick_name="1x2 Brick") or
    (b.brick_color="Bright Red" and b.brick_name="2x4 Plate");

-- 2(c)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l JOIN
    Themes as t ON (l.theme_name=t.theme_name)
WHERE
    -- Instead of joining on a 'Disney' theme, I'm doing a join
    -- Over themes with the disney license, since there will be more results
    (t.license="Walt Disney Inc.");

-- 2(d)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l JOIN
    SetCategories as s ON (l.item_num=s.item_num)
WHERE
    (s.category_name="Sports") or
    (s.category_name="Building");

-- 2(e)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM

```

```

LegoSets as l JOIN
SetProductionYears as s1 ON (l.item_num=s1.item_num) JOIN
SetProductionYears as s2 ON (l.item_num=s2.item_num)
WHERE
(s1.prod_start_year<>s2.prod_start_year);

-- 2(f)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l
WHERE
    (l.minifig_count IS NOT NULL) and
    (l.minifig_count > 4) and
    (l.vip_points > 120);

-- 2(g)
SELECT DISTINCT
    l.item_num,
    l.set_name
FROM
    LegoSets as l JOIN
    SetProductionYears as s1 ON (l.item_num=s1.item_num) JOIN
    SetProductionYears as s2 ON (l.item_num=s2.item_num and s1.prod_start_year=s
2.prod_start_year and s1.prod_end_year=s2.prod_end_year)
WHERE
    (s1.prod_end_year IS NOT NULL) and
    (s2.prod_end_year IS NOT NULL);

-- 2(h)
-- Return all the parts is that make up the Jabba's palace set
SELECT DISTINCT
    l.item_num,
    l.set_name,
    b.brick_name,
    p.num_bricks
FROM
    LegoSets as l JOIN
    Bricks as b JOIN
    PartsList as p ON p.item_num=l.item_num
WHERE
    l.set_name="Jabba's Palace" and
    p.elem_id=b.elem_id and
    p.des_id=b.des_id;

-- Return sets with more than 50 of a part
SELECT DISTINCT
    l.item_num,
    b.brick_name,
    p.num_bricks
FROM
    LegoSets as l JOIN
    Bricks as b JOIN
    PartsList as p ON (p.item_num=l.item_num)
WHERE
    p.elem_id=b.elem_id and
    p.des_id=b.des_id and
    p.num_bricks>50;

```

(-1) cases ...

```
-- Return all bricks with multiple design id's
SELECT DISTINCT
    b1.elem_id,
    b1.des_id,
    b2.des_id
FROM
    Bricks as b1 JOIN
    Bricks as b2 ON (b1.elem_id=b2.elem_id)
WHERE
    (b1.des_id<>b2.des_id);
```