Seminarska naloga

Podatkovne baze

Marcel Polanc, 63170240

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1 Naloga (DDL)

Iz tabele x_word, opisane z podano relacijsko shemo naredite (CREATE TABLE).

CREATE TABLE pleme (tid int, tribe varchar(10), PRIMARY KEY (tid));	CREATE TABLE aliansa (aid int, alliance varchar(30), PRIMARY KEY (aid));
CREATE TABLE igralec (pid int, player varchar(30), tid int, aid int, PRIMARY KEY (pid), FOREIGN KEY (tid) REFERENCES pleme(tid), FOREIGN KEY (aid) REFERENCES aliansa(aid));	CREATE TABLE naselje (vid int, village varchar(30), x int, y int, population int, pid int, PRIMARY KEY (vid), FOREIGN KEY (pid) REFERENCES igralec(pid));

Napolnite tabele z podanimi relacijskimi shemami in pomeni.

INSERT INTO pleme (tid, tribe) VALUES (1,"Rimljani"), (2,"Tevtoni"), (3,"Galci"), (4,"Narava"), (5,"Natarji"), (6,"Huni"), (7,"Egipcani");	INSERT INTO aliansa (aid, alliance) SELECT DISTINCT aid, alliance FROM x_world;
INSERT INTO igralec (pid, player, tid, aid) SELECT DISTINCT pid, player, tid, aid FROM x_world;	INSERT INTO naselje (vid, village, x, y, population, pid) SELECT vid, village, x, y, population, pid FROM x_world;

Iz tabele aliansa odstranite vrstico kjer aid = 0 ter v tabeli igralec zamenjajte vse vrednosti aid = 0 z NULL. Pri vseh tabelah tudi pravilno določite primarne in tuje ključe.

UPDATE igralec SET aid = null WHERE aid = 0;	DELETE FROM aliansa WHERE aid = 0;

pid	player	tid	aid
1	Natars	5	NULL
2	Multihunter	1	1
6	Al aiz on mi	2	27
9	WaRoR	6	18
10	Тута Бугарин	7	95
14	Grev	7	7
15	Orgus	7	24

aid	alliance
1	TG-TS
3	a
6	SJ
7	STARK
9	FIGHT-БГ
13	KT2
18	HORDA

2 Naloga (DML)

a) Kateri igralec ima največje naselje?

```
SELECT player AS max_pop_nas
FROM igralec i, naselje n
WHERE i.pid = n.pid
AND n.population = (SELECT MAX(population)
FROM naselje);
```

	max_pop_nas
	Bogatin

b) Kateri igralci imajo največ naselji?

```
SELECT player AS max_st_nas
FROM igralec i, (SELECT pid, COUNT(pid) a
                 FROM naselje
                 GROUP BY pid
                 ORDER BY COUNT(pid) DESC LIMIT 10) ppis
WHERE i.pid = ppis.pid
ORDER BY ppis.a DESC;
```

	max_st_nas
	Natars
	nekros
	oraso
	HAKUNAMATATA
	Ieremias Pit
	Sirena

c) Koliko igralcev ima nadpovprečno veliko naselje?

```
SELECT COUNT(DISTINCT i.pid) AS nad_povp_nas
FROM igralec i, naselje n
WHERE i.pid = n.pid
AND n.population > (SELECT SUM(population) / COUNT(vid) as sest
                    FROM naselje);
```

	nad_povp_nas
	2074

d) Izpišite podatke o vseh naseljih igralcev brez alianse, urejeno padajoče po x in nato y koordinati.

```
SELECT n.vid, n. village, n.x, n.y, n.population, n.pid
FROM igralec i, naselje n
WHERE i.pid = n.pid
AND aid IS null
ORDER BY x DESC, y DESC;
```

	vid	village	x	y	population	pid
	35105	04Odin	250	171	544	72
	38845	05Thor	249	172	330	72
	21410	02Slavs	248	171	787	72
	43834	New village	247	168	74	72
	26076	New village	247	-244	538	11104
	41176	New village	246	170	201	72

e) Katero pleme je najštevilčnejše (glede na skupno populacijo)?

```
SELECT tribe
FROM pleme
WHERE tid = (SELECT tid
                    FROM naselje n, igralec i
                    WHERE n.pid = i.pid
                    AND tid IS NOT null
                    GROUP BY tid
                    ORDER BY SUM(population) DESC
                    LIMIT 1);
```

	tribe
	Huni

f) Izpišite število nadpovprečno močnih alians (povprečje populacije računajte glede na alianse, ne na vse igralce).

```
SELECT COUNT(aidd) as nad_povp_alianse
FROM(
SELECT COUNT(aid) as aidd
FROM igralec i, naselje n
WHERE i.pid = n.pid
AND aid IS NOT null
GROUP BY aid
HAVING SUM(population) > (SELECT SUM(population) / (SELECT COUNT(DISTINCT(aid)) from
aliansa) as sest
                                        FROM naselje n, igralec i
                                        WHERE n.pid = i.pid
                                        AND aid IS NOT null)
) as tabela;
```

	nad_povp_alianse
	41

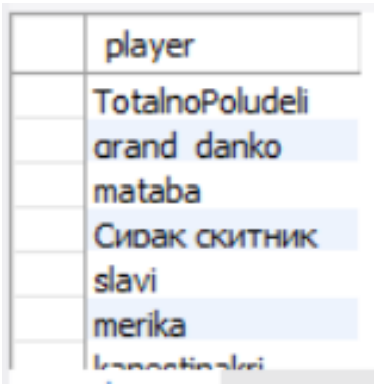
g) Napišite shranjen podprogram, ki za poljubne koordinate (parametra x in y) vrne populacijo na največ podani razdalji (parameter razdalja). Npr. razdalja 10 pomeni vse koordinate od vključno (x-10, y-10) do (x+10, y+10). Za preverjanje robnih pogojev (koordinate izven [-400,400] po potrebi uporabite IF stavek.

```
DELIMITER //
CREATE PROCEDURE obmocje(in x0 int, in y0 int, in razdalja int)
BEGIN
     SELECT COALESCE(SUM(population), 0) AS sum_populacija
   FROM(
            SELECT population
      FROM naselje
      WHERE x >= x0 - razdalja AND x <= x0 + razdalja
      AND y >= y0 - razdalja AND y <= y0 + razdalja
   ) AS nekaj;
END //
DELIMITER ;

CALL obmocje(20, 60, 10);
```

	sum_populacija
	52151

h) Izpišite imena igralcev, ki imajo vsa svoja naselja na območju x, ki je med 100 in 200 in y, ki je med 0 in 100.

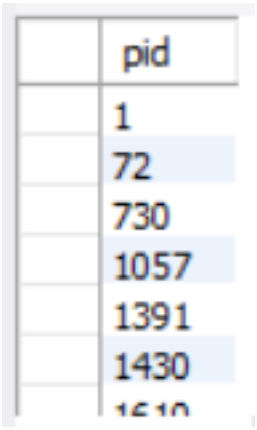
```
SELECT player
FROM igralec i,
(SELECT DISTINCT(prvi.pid)
FROM    (SELECT i.pid, COUNT(vid) as st
         FROM igralec i, naselje n
         WHERE i.pid = n.pid
         GROUP BY i.pid) prvi,

         (SELECT i.pid, COUNT(vid) as st
         FROM igralec i, naselje n
         WHERE i.pid = n.pid
         AND x BETWEEN 100 AND 200
         AND y BETWEEN 0 AND 100
         GROUP BY i.pid) drugi
WHERE prvi.pid = drugi.pid
AND prvi.st = drugi.st) ii
WHERE i.pid = ii.pid;
```



	player
	TotalnoPoludeli
	grand danko
	mataba
	Сидак скитник
	slavi
	merika

i) Poiščite igralce, ki imajo umirajoče naselje. Za umirajoče naselje vzemite tista naselja, ki imajo manj kot 3% povprečne populacije igralca (povprečna populacija igralca je populacija igralca ulomljeno s številom njegovih naselij).

```
SELECT DISTINCT(naselje.pid)
FROM naselje, (SELECT pid, SUM(population) as s
                    FROM naselje
                    GROUP BY pid) pop,
                    (SELECT i.pid, COUNT(vid) as st
                    FROM igralec i, naselje n
                    WHERE i.pid = n.pid
                    GROUP BY i.pid) stnas
WHERE pop.pid = stnas.pid
AND naselje.pid = pop.pid
AND naselje.pid = stnas.pid
AND naselje.population < (pop.s / stnas.st) * 0.03;
```



	pid
	1
	72
	730
	1057
	1391
	1430

3 Naloga (DDL)

- Napišite shranjeno proceduro UstvariAlianso(imeAlianse, pid), ki ustvari novo alianso imeAlianse in vanjo včlani igralca s šifro pid. Preveriti mora tudi, da igralec s šifro pid ni že v drugi aliansi.

```
DELIMITER //
CREATE PROCEDURE UstvariAlianso (
                              in imeAlianse varchar(30),
        in a_pid int)
BEGIN
          INSERT INTO aliansa (aid, alliance)
          VALUES ((SELECT MAX(aid)+1 FROM aliansa as a), imeAlianse);

  IF (SELECT aid FROM igralec WHERE pid = a_pid) IS null
  THEN
                    UPDATE igralec
                    SET aid = (SELECT MAX(aid) FROM aliansa)
                    WHERE pid = a_pid;
  END IF;
END //
DELIMITER ;
```

```
CALL UstvariAlianso('Neznaniiii', 28);
```

aid	alliance
878	SPR
879	Socra1
880	hait
881	vuk
882	Neznaniiii
NULL	NULL

pid	player	tid	aid
15	Orcus	7	24
28	Lvonaron	6	882
29	Fixr	6	NULL
37	peekaboo	6	315
38	Playboy	1	NULL
39	Vania023	6	NULL

- Napišite transakcijo, ki bo združila člane alians GM-H4N1TM in RS-H3N3TM v novo imenovano alianso VirusTM.

```
START TRANSACTION;
INSERT INTO aliansa (aid, alliance)
VALUES ((SELECT MAX(aid)+1 FROM aliansa as a), "Virus™");
SET SQL_SAFE_UPDATES=0;
UPDATE igralec
SET aid = (SELECT aid FROM aliansa as b WHERE b.alliance = "Virus™")
WHERE aid = (SELECT aid FROM aliansa as c WHERE c.alliance = "GM-H4N1™")
OR aid = (SELECT aid FROM aliansa as d WHERE d.alliance = "RS-H3N3™");
COMMIT;
```

pid	player	tid	aid
715	Drvosiece	2	883
727	touch	6	883
1256	Daniel Boskovic	3	883
1659	Che	6	883
1994	acko	3	883
2907	boost	3	883
3298	tsampi	3	883

4 Naloga (ODBC)