

CSCI-B 561 ADVANCED DATABASE CONCEPTS

Assignment 3

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Solutions

1. VIEW:

- (a)

```
SELECT p.pname FROM Players p,(SELECT q.pid, MAX(t.rating) FROM Players q, Camps c,
Take t WHERE q.pid= t.pid AND c.cid = t.cid AND t.season = "Fall" AND c.cname = "Shoot-
ing" AND t.year = "2015") u WHERE p.pid = u.pid;
```
- (b)

```
CREATE VIEW MaximumRating(Player_ID, Max.rating) AS
SELECT pid, MAX(rating)
FROM Players q, Camps c, Take t
WHERE q.pid= t.pid AND c.cid = t.cid AND t.season = "Fall" AND c.cname
= "Shooting" AND t.year = "2015";

SELECT x.pname FROM Players x, MaximumRating m WHERE x.pid= m.Player_ID;
```

2. CONSTRAINTS:

- (a)

```
CREATE TABLE Classes {
class VARCHAR(30) PRIMARY KEY,
type VARCHAR(30),
country CHAR (30),
numGuns INT (30),
bore INT(30) CONSTRAINT NoBore CHECK ( bore≤ 14 AND NOT(numGuns > 9)),
displacement NUM(30)
};
```
- (b)

```
CREATE TABLE Outcomes{
ship varchar(30) FOREIGN KEY REFERENCES Ships(name)
battle varchar(30) FOREIGN KEY REFERENCES Battle(name)
CONSTRAINT IsLaunched
CHECK ( ship IN (SELECT name FROM SHIPS WHERE
launched = 'YES'))
};
```

3. INDEXES:

- (a) `CREATE INDEX(Item.ID) ON clicks(itemid);`
- (b)
 - i. YES
 - ii. NO
 - iii. YES
- (c) `CREATE INDEX(New.Created) ON clicks(created);`
- (d)
 - i. (1) only the index on itemid helps
 - ii. (3) both help
 - iii. (2) only the index on created helps
 - iv. (4) neither one of the indexes helps

References

- 1. w3schools.com — SQL Tutorials
- 2. Database systems - the complete book.
- 3. Database Management Systems, Ramakrishnan.