

Setup

```
CREATE DATABASE hw1;
USE hw1;

CREATE TABLE `match`(
    matchId varchar(20),
    matchDuration int,
    matchType varchar(20),
    maxPlace int,
    numGroups int
);

CREATE TABLE player_statistic(
    Id varchar(20),
    groupId varchar(20),
    matchId varchar(20),
    assists int,
    boosts int,
    damageDealt double,
    DBNOs int,
    headshotKills int,
    heals int,
    killPlace int,
    killPoints int,
    kills int,
    killStreaks int,
    longestKill double,
    rankPoints int,
    revives int,
    rideDistance double,
    roadKills int,
    swimDistance double,
    teamKills int,
    vehicleDestroys int,
    walkDistance double,
    weaponsAcquired int,
    winPoints int,
    winPlacePerc double
);

LOAD DATA LOCAL INFILE '/data/match.csv'
INTO TABLE `match`
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
IGNORE 1 LINES;
```

```

LOAD DATA LOCAL INFILE '/data/player_statistic.csv'
INTO TABLE player_statistic
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
IGNORE 1 LINES;

CREATE INDEX match_index
ON `match`(matchId);

CREATE INDEX player_statistic_index
ON player_statistic(matchId);

CREATE USER 'user'@'%' identified by 'user';
GRANT SELECT ON *.* to 'user'@'%';
FLUSH PRIVILEGES;

```

Homework Problem Answer

1. 請列出每場比賽(matchId)擊倒敵人數(DBNOs)最多的數量，並根據擊倒數量(DBNOs)的數量由大到小排列，取前20筆列出

```

> select matchId, MAX(DBNOs)
   from player_statistic
  group by matchId
 order by MAX(DBNOs) desc
 limit 20;

```

2. 請列出單場總傷害量(damageDealt)介在2000到2010之間的玩家Id、比賽Id及單場總傷害量

```

> select Id, matchId, damageDealt
   from player_statistic
  where damageDealt between 2000 and 2010;

```

3. 請列出比賽類型(matchType)中有"fpp"的比賽類型及每個比賽類型的數量，根據數量由小到大來做排序

```

> select matchType, count(*)
   from `match`
  where matchType like '%fpp%'
  group by matchType
 order by count(*);

```

4. 請列出那些曾經參加過比賽小組數目(numGroup)小於等於10的玩家，其所有的比賽平均殺敵數前20名多的玩家ID(Id)及其所有的比賽平均殺敵數(kills)

```
> select Id, AVG(kills)
    from player_statistic
   group by Id
  having Id in
        (select distinct(Id)
         from player_statistic as p join `match` on
         (p.matchId=match.matchId and match.numGroups<=10)
        )
 order by AVG(kills) desc
 limit 20;
```

5. 請列出每種比賽類型(matchType)的平均時長(matchDuration)，並按時長由小到大排列

```
> select matchType, avg(matchDuration) as `average duration`
    from `match`
   group by matchType
  order by avg(matchDuration);
```

6. 請列出一場比賽裡有走過路(walkDistance)、有游過泳(swimDistance)、有乘過載具(rideDistance)的玩家中，該三項距離跟合計距離是多少，並按合計距離由大至小排列，只列出頭10筆資料即可

```
> select (sum(walkDistance)+sum(swimDistance)+sum(rideDistance)) as totalDistance,
sum(walkDistance), sum(swimDistance), sum(rideDistance)
    from player_statistic
   where Id in
        (select distinct(Id)
         from player_statistic
        where walkDistance > 0 and swimDistance > 0 and rideDistance > 0 )
   group by Id
  order by totalDistance desc
 limit 10;
```

7. 請列出比賽時長(matchDuration)超過所有比賽平均時長的比賽中，沒做過任何傷害(damageDealt)最後卻拿到第一名(winPlacePerc)的玩家有幾位以及他們的最大醫療用品使用量(heals)

```
>select count(Id), max(heals)
    from player_statistic
   where winPlacePerc = 1 and damageDealt =0 and matchId in
        (select matchId
```

```
from `match`  
where matchDuration > (select avg(matchDuration) from `match`)  
);
```

8. 請列出比賽類型(matchType)為"squad"跟"squad-fpp"中，隊伍合計開車擊殺數(roadKills)一樣的隊伍所得平均名次(winPlacePerc)，並按合計開車擊殺數量由大至小排列

Note:隊伍的意思為一場比賽裡的一隊，同一隊人玩了N比賽當成N隊

```
> select Rkills as roadKills, avg(wPP) as averagePrec  
from (select sum(roadKills) as Rkills, avg(winPlacePerc) as wPP  
from player_statistic  
where matchId in  
(select matchId  
from `match`  
where matchType="squad" or matchType="squad-fpp")  
group by groupId, matchId )a0  
group by a0.Rkills  
order by Rkills desc;
```