# **Homework 3**

## **Part 1**

* SELECT COUNT(playerNum) FROM SuperBallScores;

Execution time : 0.015 seconds

It runs quickly as compared to others as this provides count.

* SELECT playerNum, MIN(score), MAX (score) FROM SuperBallScores GROUP BY playerNum;

Execution time : 0.022 seconds

It takes slightly more time than query1 as query has group by and min,max operations.

* SELECT T1.playerNum FROM SuperBallScores T1, SuperBallScores T2 WHERE T1.playerNum = T2.playerNum;

Execution time : 0.086 seconds

This query runs slower than query2 as it has joins on table and fetching all the records.

* UPDATE SuperBallScores SET score=score - 10;

Execution time : 00:00:00.109 seconds

This is DML query which is quite slower than wbove queries as all rows are updating in this query

## **Part2**

1. R1<- Emp ⋈emp.eid =dept.managerid Dept

Πename,age (σdname=”Hardware” ^ dname=”Software”(R1))

1. R1<- Dept ⋈dept.did =Works.did Works

Πdid,empcount γempcount = count(eid) (R1)

σ pct\_time > 100

1. R1<- Emp ⋈emp.eid =dept.managerid Dept

R2<- dname,sum(budget)R1

Πename (σsalary > R1 (R2))

1. Πmanagerid (Dept) – Πmanagerid (σbudget <= 1000000 (Dept))
2. R1<- Dept ⋈dept.managerid =emp.eid Emp

Πename (σdept.budget = (large\_budget = max(dept.budget) (R1)))