

תרגול 1

פעולה בSQL	תוצאה	זמן ריצה (התוצאה שמופיעה בסוגרים)	כמה פעולות בוצעו
מכפלה קרטזית	2	0.0009 (0.0002)	50*50=2500
צירוף	2	0.0007 (0.0001)	196
חת שאלתא	2	0.0017 (0.0002)	50+50=100

מכפלה קרטזית

```

SELECT B1.BranchName
FROM Branch as B1, Branch as B2
WHERE (B1.BranchCity = B2.BranchCity) AND
(B2.BranchName = "Aviv")

```

צירוף

```

SELECT B1.BranchName
FROM Branch as B1 join Branch as B2
ON (B1.BranchCity = B2.BranchCity)
WHERE B2.BranchName = "Aviv"

```

חת שאלתא

```

SELECT BranchName
FROM Branch
WHERE BranchCity = (
    SELECT BranchCity
    FROM Branch
    WHERE BranchName = "Aviv")

```

תרגול 2

שאלה 1

```
select Sector , count(SectorID),
case
when count(SectorID)<2 then 'Less than 2 sectors'
when count(SectorID)=2 then 'Exactly 2 sectors'
else 'More than 2 sectors'
end
from Sectors join Companies
using (SectorID)
GROUP BY SectorID
```

שאלה 2

```
UPDATE Stocks
SET OptionID = (
    select round(SectorID*CompanyID)
    from Companies
    where CompanyName = 'MachteshimAgan')
WHERE CompanyID = (
    select CompanyID
    from Companies
    where CompanyName = 'MachteshimAgan')
```

שאלה 3

זמן ריצה (התוצאה שמוינעת בסוגרים)	תוצאה	פעולה בSQL
0.0019 (0.0002)	4	פונקציית השוואת מחרוזות
0.0015 (0.0002)	4	בדיקה השוואת ע"י תנאי IF

פונקציית השוואת מחרוזות

```
select STRCMP(
    select count(*)
    from Companies
    where Markets = 'Dual'),
    (select count(*)
    from Companies
    where Markets = 'Israel'))
```

בדיקה השוואת ע"י תנאי IF

```
select if(
    select count(*)
    from Companies
    where Markets = 'Dual') = (select count(*)
        from Companies
        where Markets = 'Israel'), 'Y', 'N')
```

תרגול 3

שאלה 4

CREATE VIEW TOP5

AS

(SELECT StockName, Price

FROM stocks

ORDER BY price DESC

LIMIT 5)

שאלה 5

זמן ריצה (התוצאה שמופיעה בסוגרים)	תוצאה	פעולה בSQL
0.0012 (0.0002)	2	MIN , MAX
0.0012 (0.0002)	2	אופרטור LIMIT

MIN , MAX

Select CompanyName

From Companies join Stocks

Using (CompanyID)

Where Price in ((

select max(Price)

From Stocks),

(select min(Price)

From Stocks))

```
SELECT companyname
FROM companies JOIN stocks
USING (companyid)
WHERE price IN (
    SELECT price
    FROM stocks
    order by price desc
    limit 1),
    (SELECT price
    FROM stocks
    order by price asc
    limit 1))
```

שאלה 6

```
CREATE Temporary TABLE CompaniesCounter
(
select count(*) as cou
from Companies
)
```

```
select StockName
from Stocks join CompaniesCounter
where CompanyID = CompaniesCounter.cou*10
```

שאלה 7

```
Start Transaction;  
CREATE VIEW Cheapest3  
AS  
(select StockName , Price  
from Stocks  
order by price asc  
LIMIT 3);  
CREATE Temporary TABLE MinPrice  
(select min(Price)  
From Cheapest3);  
UPDATE Stocks  
SET Price = Price*1.1  
WHERE Price = (select *  
from MinPrice);  
Commit;  
  
SELECT *  
FROM stocks
```

תרגול 4

שאלה 8

Insert Into Options

Values (

```
(select OptionID  
from Stocks  
where StockName = 'Machteshim'),  
(select round((  
    select Price  
    from Stocks  
    where StockName = 'Machteshim')/12)),  
CURDATE())
```

שאלה 9

Select StockName

From Stocks

Join Companies

Using (CompanyID)

Where SectorID = (

```
    select SectorID  
    From Companies  
    Where CompanyName = 'BankPoalim')
```

Select StockName

From Stocks

Where CompanyID in (

 select CompanyID

 From Companies

 Where SectorID = (

 select SectorID

 From Companies

 Where CompanyName = 'BankPoalim'))

שאלה 10

שאלה בSQL	תוצאה	זמן ריצה (התוצאה שמופיעה בסוגרים)
פתרונות ע"י שימוש בתתי-שאלות	1	(0.0002) (0.0011)
פתרונות ע"י שימוש בVIEW		(0.0088) (0.0012)

פתרונות ע"י שימוש בתתי-שאלות

select s.Sector

from Sectors as s

join (select SectorID

 from Companies as c

 where c.Markets = 'Israel'

 group by c.SectorID

 having count(c.SectorID) = (select max(counter)

 from (select count(c2.SectorID) as counter

 from Companies as c2

 where Markets = 'Israel'

 group by SectorID) as mic)) as smic

using (SectorID)

```
CREATE VIEW BigSector  
AS  
(SELECT s.Sector, count(Sector) as counter  
FROM companies as c  
join sectors as s  
USING (sectorid)  
WHERE markets='ISRAEL'  
GROUP BY Sector)
```

```
SELECT sector  
FROM BigSector  
WHERE counter = (  
    SELECT MAX(counter)  
    from BigSector)
```

שאלה 11

```
DELIMITER $$  
CREATE FUNCTION SectorCounter(SectorsID int)  
RETURNS int  
BEGIN  
    DECLARE CompanyCount int;  
    SELECT count(*)  
    INTO CompanyCount  
    FROM companies  
    WHERE SectorID = SectorsID;  
    RETURN CompanyCount;  
END $$  
DELIMITER;
```

SELECT SectorCounter(1)