

Database: qoc353\_4

Neemtallah Attie  
Laurent Romulus  
Fadi Girgis 40053643

William Chittavong 40048632

## ER conversions

Researcher(  
    researcherID,  
    companyID

)

Primary key: (EmpID,CompanyID)

F = {} There is no FD therefore Researcher is in BCNF and 3NF.

Project (  
    projectID,  
    project\_teamID,  
    project\_facilityID,  
    project\_companyID,  
    startDate,  
    endDate,  
    name

)

Primary key: (projectID , project\_teamID,project\_facilityID,project\_companyID)

Foreign keys: project\_teamID,project\_facilityID,project\_companyID

F = {projectID , project\_teamID,project\_facilityID,project\_companyID → startDate ,  
endDate,name}

For project table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table. In this case, projectID , project\_teamID,project\_facilityID, and project\_companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the project table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
assigned(  
    assigned_project,  
    assigned_team,  
    assigned_facility,  
    assigned_company,  
    assigned_researcher,  
    total_hours,  
    assigned_startDate,  
    assigned_endDate
```

```
)
```

Primary key: (researcherID ,companyID,projectID)

$F = \{ \text{assigned\_project, assigned\_team, assigned\_facility, assigned\_company, assigned\_researcher} \rightarrow \text{total\_hours, assigned\_startDate, assigned\_endDate} \}$

For assigned table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:

assigned\_project, assigned\_team, assigned\_facility, assigned\_company, assigned\_researcher must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the assigned table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
team(  
    teamID,  
    team_researchFID,  
    team_companyID,  
    teamName,  
    teamLeaderID
```

```
)
```

Primary key: (teamID,team\_researchFID,team\_companyID)

Foreign Key:teamID,team\_researchFID,team\_companyID,teamLeaderID

$F = \{teamID,team\_researchFID,team\_companyID \rightarrow teamLeadID , teamName \}$

For team table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: teamID,team\_researchFID,team\_companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the team table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```

contract(
    contractID,
    client_clientID,
    purchase_purchaseID,
    company_companyID,
    employee_of_company,
    client_employee,
)

```

Primary key: (contractID)

Foreign keys: client\_clientID, purchase\_purchaseID, company\_companyID, employee\_of\_company, client\_employee

$F = \{ \text{contractID} \rightarrow \text{client\_clientID}, \text{purchase\_purchaseID}, \text{company\_companyID}, \text{employee\_of\_company}, \text{client\_employee} \}$

For contract table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: contractID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the team table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```

purchaseItem(
    purchase_item_productID,
    purchase_item_companyID,
    purchase_item_purchaseID,
    quantity,
    unitPrice
)

```

Primary key: (purchase\_item\_productID, purchase\_item\_companyID, purchase\_item\_purchaseID)

Foreign keys: purchase\_item\_productID, purchase\_item\_companyID, purchase\_item\_purchaseID

$F = \{ \text{purchase\_item\_productID}, \text{purchase\_item\_companyID}, \text{purchase\_item\_purchaseID} \rightarrow \text{quantity}, \text{unitPrice} \}$

For purchaseItem table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: productID , productCompany, purchaseID must be part of the key to the table.

Since the only FD uses those same key components to obtain the rest of the attributes in the purchaseItem table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
product(  
    productID,  
    product_company,  
    productDescription,  
    productVolume,  
    productPrice,  
    UPC ,  
    productWeight,  
    productName,  
    productStatus
```

```
)
```

Primary key: ( productID , product\_company)

Foreign key: product\_company

$F = \{$   
 $\text{productID}, \text{product\_company} \rightarrow \text{productDescription}, \text{productVolume}, \text{productPrice}, \text{UPC}$   
 $, \text{productWeight}, \text{productName}, \text{productStatus}$   
 $\text{UPC} \rightarrow \text{productID}, \text{product\_company}, \text{productDescription}, \text{productVolume}, \text{productPrice}, \text{UPC}$   
 $, \text{productWeight}, \text{productName}, \text{productStatus}$   
 $\}$

For product table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: productID and product\_company must be part of the key to the table. Since the first FD uses those same key components to obtain the rest of the attributes in the product table then this means that this FD is in BCNF. As in this FD has a key for its left hand side of its attribute. For the FD that has UPC on its left hand side, it also determines the entire relation since it is unique. So that FD is in BCNF and also UPC is obtained using the first FD. Since all the FD's are in BCNF then this table is in BCNF.

```
facility (  
    fID ,  
    companyID,  
    facilityType,  
    facilityPostalCode,  
    facilityName,  
    facilityPhone,  
    facilityAddress,  
    facilityCountry,  
    facilityCity,  
    facilityProvince,  
)
```

Primary key: (fID,companyID)

Foreign key: companyID

$F = \{fID, companyID \rightarrow facilityType, facilityPostalCode, facilityName, facilityPhone, facilityAddress, facilityCountry, facilityCity, facilityProvince\}$

For facility table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: fID,companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
headOffice(  
    headFID,  
    companyID,  
    email,  
    website  
)
```

primary key: ( headFID,companyID )

Foreign keys: headFID,companyID

$FD = \{headFID, companyID \rightarrow email, website\}$

For headOffice table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: headFID,companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
researchfacility(  
    ResearchFID,  
    companyID  
)
```

primary key: ( ResearchFID, companyID)

Foreign keys: ResearchFID,companyID

FD = {} There are no FD's in researchfacility therefore it is in BCNF & 3NF. It has no FD's to violate.

```
manufacturingfacility(  
    ManufacturingFID  
    companyID  
    productionCap  
)
```

primary key: ManufacturingFID, companyID

Foreign keys: ManufacturingFID,companyID

$F = \{ \text{ManufacturingFID, companyID} \rightarrow \text{productionCap} \}$

For manufacturingfacility table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: ManufacturingFID, companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.



```

warehousefacility(
    warehouseFID,
    companyID
    maxcap
)
primary key: (warehouseFID , companyID)
F={ warehouseFID , companyID → maxCap}

```

For warehousefacility table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:warehouseFID , companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```

worksFor (
    emplID,
    company,

    fID,

    task,
    endDate,
    startDate

)
F = { emplID ,company→ fID, task, endDate, startDate }

```

primary key:(emplID , company,startDate)

Foreign keys: fID,company, emplID

For worksfor table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:warehouseFID , companyID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
person(  
  SSN,  
  firstName,  
  lastName,  
  citizenship,  
  postalCode,  
  province,  
  email,  
  address,  
  city,  
  salary,  
  country,  
  phone  
)
```

Primary key: (SSN)

$F = \{SSN \rightarrow$   
firstName,lastName,citizenship,postalCode,province,email,address,city,salary,country,phone }

For person table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:SSN must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

employee(

    employeeID,  
    companyID ,  
    empSSN

)

primary key: (employeeID , companyID )

$F = \{ \text{employeeID , companyID} \rightarrow \text{empSSN} \}$

For employee table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:SSN must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
clients (  
    clientID,  
    clientPhone,  
    clientName,  
    clientCountry,  
    clientEmail,  
    clientContactName,  
    clientAddress,  
    clientCity,  
    clientProvince,  
    clientPostalCode  
)  
primary key: clientID
```

F={

clientID → ClientName, clientEmail, clientContactName,clientPhone,clientPostalCode,  
ClientCountry,clientAddress,clientCity,clientProvince  
}

For clients table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case:clientID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF.As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
company (  
    cID,  
    ceoID ,  
    headOfficeID,  
    companyName  
)  
primary key: cID  
Foreign keys: ceoID , headOfficeID
```

$F = \{cID \rightarrow ceoID, headOfficeID, companyName\}$

For company table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: cID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

```
purchase (purchaseID , purchaseDate)
```

primary key: purchaseID

$F = \{purchaseID \rightarrow purchaseDate\}$

For purchase table, this table is in BCNF. The values that are missing from the left hand side of each FD are those that make up the key to a table.

In this case: purchaseID must be part of the key to the table. Since the only FD uses those same key components to obtain the rest of the attributes in the table then this means that single FD is in BCNF. As in this FD has a key for its left hand side of its attribute. Since all the FD's are in BCNF then this table is in BCNF.

## **Query 11**

```
SELECT
    company.companyName,
    facility.facilityAddress,
    company.ceoID,
    person.firstName,
    person.lastName,
    (SELECT DISTINCT
        COUNT(worksfor.empID)
    FROM
        worksfor) AS TotalEmployees,
    (SELECT
        COUNT(facility.fID)
    FROM
        facility
    WHERE
        facility.facilityType = 'research') AS Research_facilities,
    (SELECT
        COUNT(worksfor.empID)
    FROM
        worksfor
    WHERE
        worksfor.task = 'researcher') AS TotalResearchers,
    (SELECT
        COUNT(facility.fID)
    FROM
        facility
    WHERE
        facility.facilityType = 'factory') AS Manufacturing_facilities,
    (SELECT
        SUM(manufacturingfacility.productionCap)
    FROM
        manufacturingfacility) AS ProductionMAXCap,
    (SELECT
        COUNT(facility.fID)
    FROM
        facility
    WHERE
        facility.facilityType = 'warehouse') AS Warehouse_facilities,
    (SELECT
        SUM(warehousefacility.maxcap)
    FROM
```

```

        warehousefacility) AS WarehouseMAXCap
FROM
    company,
    facility,
    employee,
    headoffice,
    person,
    worksfor,
    researchfacility,
    researcher,
    manufacturingfacility,
    warehousefacility
WHERE
    facility.fID = headoffice.headFID
    AND facility.companyID = company.cID
    AND company.cID = headoffice.companyID
    AND worksfor.company = company.cID
    AND employee.empSSN = person.SSN
    AND employeeID = company.ceoID
GROUP BY company.cID

```

companyName	facilityAddress	ceoID	firstName	lastName	TotalEmployees	Research_facilities	TotalResearchers	Manufacturing_facilities	ProductionMAXCap	Warehouse_facilities	WarehouseMAXCap
Pfizer	P.O. Box 437, 6630 Blandit St.	511	Judah	Josiah	47	7	41	5	29800	5	35437
Moderna	1519 Tortor, St.	209	Patrick	Samuel	47	7	41	5	29800	5	35437
GSK	9834 Egestas St.	108	Brynne	Michael	47	7	41	5	29800	5	35437
Pharma	573 Dui St.	949	Christian	Grady	47	7	41	5	29800	5	35437
Roche	4025 Ipsum Street	7846	Hasad	Edan	47	7	41	5	29800	5	35437

## Query 12

```

SELECT
    company.companyName,
    facility.facilityCountry,
    COUNT(warehousefacility.maxcap)
FROM
    company, facility, warehousefacility, contract, clients
WHERE
    facility.companyID=warehousefacility.companyID>=1 AND contract.client_clientID=
clients.clientID>=1
GROUP BY
    company.companyName

```

	companyName	facilityCountry	COUNT(warehousefacility.maxcap)
▶	Pfizer	USA	324
	Moderna	USA	324
	GSK	USA	324
	Pharma	USA	324
	Roche	USA	324

## Query 13

```

SELECT
    company.companyName,
    company.headOfficeID,
    contract.company_companyID,
    facility.fID,
    facility.facilityCity,
    facility.facilityProvince,
    facility.facilityCountry,
    clients.clientCountry,
    contract.contractID
FROM
    company,
    facility,
    contract,
    clients
WHERE
    company.headOfficeID = facility.fID
    AND facility.facilityType = 'Head'
    AND contract.company_companyID = company.cID
    AND contract.client_clientID = client_clientID
    AND clients.clientCountry != facility.facilityCountry
GROUP BY facility.fID

```

	companyName	headOfficeID	company_companyID	fID	facilityCity	facilityProvince	facilityCountry	clientCountry	contractID
▶	Pharma	14	4	14	Watson Lake	Virginia	USA	CA	11
	Pfizer	11	1	11	Felixstowe	California	USA	CA	5
	Roche	15	5	15	Collins	New Brunswick	CA	USA	13
	GSK	13	3	13	Ottawa	Ontario	CA	USA	9
	Moderna	12	2	12	Calgary	Alberta	CA	USA	7



## Query 14

```
SELECT
    clients.clientName,
    purchase.purchaseDate,
    product.productName,
    purchase_item.quantity,
    purchase_item.unitPrice,
    (purchase_item.unitPrice * purchase_item.quantity) AS purchase_Value,
    clients.clientID
FROM
    purchase_item
    JOIN
    contract ON purchase_item.purchase_item_companyID = contract.company_companyID,
    clients,
    purchase,
    product
WHERE
    purchase_item.purchase_item_companyID = '1'
    AND purchase_item.purchase_item_purchaseID = contract.purchase_purchaseID
    AND clients.clientID = contract.client_clientID
    AND purchase.purchaseID = purchase_item.purchase_item_purchaseID
    AND product.productID = purchase_item.productID
```

	clientName	purchaseDate	productName	quantity	unitPrice	purchase_Value	clientID
▶	Amazon	2019-02-12	Pfizer_vaccine	500	120	60000	4
	Sams Club	2019-10-14	Pfizer_vaccine	400	80	32000	5
	Mayo Clinic	2022-06-16	Pfizer_vaccine	300	100	30000	6
	Walgreens	2020-01-01	Pfizer_vaccine	500	100	50000	7
	Alpine Medicine	2010-09-20	Pfizer_vaccine	500	50	25000	8

## Query 15

```
SELECT
    clients.clientName,
    clients.clientID,
    company.cID,
    company.companyName,
    contract.purchase_purchaseID,
```

```

purchase_item.quantity,
purchase_item.unitPrice,
(purchase_item.quantity*purchase_item.unitPrice) as total_value

```

FROM

```

clients JOIN contract on clients.clientID = contract.client_clientID left join company on
contract.company_companyID= company.cID




```

```

left join purchase on contract.purchase_purchaseID = purchase.purchaseID left join
purchase_item on purchase.purchaseID = purchase_item.purchase_item_purchaseID

```

ORDER BY total\_value DESC;

Result Grid    Filter Rows: <input type="text"/>   Export:  Wrap Cell Content: 								
	clientName	clientID	cID	companyName	purchase_purchaseID	quantity	unitPrice	total_value
▶	Amazon	4	1	Pfizer	6	500	120	60000
	Harvard Medical School	10	3	GSK	3	600	100	60000
	Amazon	4	4	Pharma	12	2000	30	60000
	Walgreens	7	1	Pfizer	9	500	100	50000
	Sams Club	5	1	Pfizer	7	400	80	32000
	Mayo Clinic	6	1	Pfizer	8	300	100	30000
	Alpine Medicine	8	2	Moderna	1	500	50	25000
	Walmart	3	1	Pfizer	5	200	100	20000
	Walmart	3	4	Pharma	11	500	40	20000
	John Hopkins	9	5	Roche	13	1000	20	20000
	United Nation Health	2	2	Moderna	10	1000	10	10000
	John Hopkins	9	3	GSK	4	100	20	2000
	Harvard Medical School	10	5	Roche	14	NULL	NULL	NULL

## Query 16

SELECT DISTINCT

```

person.firstName,
person.lastName,
person.citizenship,
company.companyName,
person.SSN,
(employee.employeeID),
team.teamLeaderID,
facility.fID,

```

```

IF(employee.employeeID = team.teamLeaderID,
'TeamLeader',
'False') AS Team_leader

```

FROM

```

person
JOIN

```

```

(SELECT
  employee.*, COUNT(employee.empSSN) AS emSSN
FROM
  employee
GROUP BY employee.empSSN
HAVING emSSN = 3) AS T ON T.empSSN = person.SSN,
team,
facility,
company,
employee,
worksfor
WHERE
  team.team_researchFID = facility.fID
  AND facility.facilityType = 'research'
  AND employee.empSSN = person.SSN
  AND team.team_companyID = company.cID
  AND employee.companyID = facility.companyID
  AND team.team_companyID = facility.companyID
  AND T.empSSN = person.SSN
  AND employee.employeeID = worksfor.empID
  AND facility.fID = worksfor.fID
GROUP BY employee.employeeID
ORDER BY employee.empSSN DESC;

```

	firstName	lastName	citizenship	companyName	SSN	employeeID	teamLeaderID	fID	Team_leader
▶	Imelda	Felix	UK	GSK	368692	247	232	23	False
	Imelda	Felix	UK	Pharma	368692	2222	775	24	False
	Imelda	Felix	UK	Moderna	368692	2323	111	42	False
	Scott	Hakeem	CA	GSK	133543	1112	232	23	False
	Scott	Hakeem	CA	Moderna	133543	111	111	42	TeamLeader
	Scott	Hakeem	CA	Pfizer	133543	1113	515	51	False
	William	Oren	UK	GSK	78272	1488	232	23	False
	William	Oren	UK	Moderna	78272	138	111	42	False
	William	Oren	UK	Pfizer	78272	1388	526	71	False

## Query 17

```

SELECT DISTINCT
  researcher.researcherID,
  person.firstName,
  person.lastName,
  person.email,

```

```

assigned.assigned_company,
assigned.total_hours,
assigned_team,
employee.employeeID,
team.teamLeaderID
FROM
    assigned
    LEFT JOIN
    researcher ON researcher.researcherID = assigned.assigned_researcher
    LEFT JOIN
    employee ON researcherID = employeeID
    LEFT JOIN
    person ON empSSN = person.SSN,
    team
    LEFT JOIN
    company ON team_companyID = company.cID
WHERE
    researcher_companyID = 1
    AND assigned_company = 1

```

researcherID	firstName	lastName	email	assigned_company	total_hours	assigned_team	employeeID	teamLeaderID	Team_leader
515	Michael	Hunter	lectus.convallis.est@google.org	1	6000	4	515	515	TeamLeader
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	4	515	515	TeamLeader
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	6	515	515	TeamLeader
526	Fritz	Abel	massa@protonmail.ca	1	2000	6	526	526	TeamLeader
526	Fritz	Abel	massa@protonmail.ca	1	7000	6	526	526	TeamLeader
526	Fritz	Abel	massa@protonmail.ca	1	3000	6	526	526	TeamLeader
188	Uriel	Lewis	Lewis@hotmail.couk	1	5000	4	188	232	False
188	Uriel	Lewis	Lewis@hotmail.couk	1	1000	4	188	232	False
188	Uriel	Lewis	Lewis@hotmail.couk	1	8000	6	188	232	False
359	Bruce	Hop	Hop@google.net	1	4000	4	359	232	False
452	Maggy	Garth	Garth@protonmail.com	1	3000	4	452	232	False
452	Maggy	Garth	Garth@protonmail.com	1	4000	4	452	232	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	6000	4	515	232	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	4	515	232	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	6	515	232	False
526	Fritz	Abel	massa@protonmail.ca	1	2000	6	526	232	False
526	Fritz	Abel	massa@protonmail.ca	1	7000	6	526	232	False
526	Fritz	Abel	massa@protonmail.ca	1	3000	6	526	232	False
549	Alisa	Chandler	Chandler@google.com	1	9000	6	549	232	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	1000	6	1113	232	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	6000	4	1113	232	False
1388	William	Oren	Oren@yahoo.couk	1	8000	6	1388	232	False
1388	William	Oren	Oren@yahoo.couk	1	2000	6	1388	232	False
4700	Ifeoma	Chaney	Chaney@google.net	1	2000	6	4700	232	False
4700	Ifeoma	Chaney	Chaney@google.net	1	4000	6	4700	232	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3000	6	5613	232	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3500	6	5613	232	False
188	Uriel	Lewis	Lewis@hotmail.couk	1	5000	4	188	775	False
188	Uriel	Lewis	Lewis@hotmail.couk	1	1000	4	188	775	False
188	Uriel	Lewis	Lewis@hotmail.couk	1	8000	6	188	775	False
359	Bruce	Hop	Hop@google.net	1	4000	4	359	775	False
452	Maggy	Garth	Garth@protonmail.com	1	3000	4	452	775	False
452	Maggy	Garth	Garth@protonmail.com	1	4000	4	452	775	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	6000	4	515	775	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	4	515	775	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	6	515	775	False
526	Fritz	Abel	massa@protonmail.ca	1	2000	6	526	775	False
526	Fritz	Abel	massa@protonmail.ca	1	7000	6	526	775	False

526	Fritz	Abel	massa@protonmail.ca	1	7000	6	526	775	False
526	Fritz	Abel	massa@protonmail.ca	1	3000	6	526	775	False
549	Alisa	Chandler	Chandler@google.com	1	9000	6	549	775	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	1000	6	1113	775	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	6000	4	1113	775	False
1388	William	Oren	Oren@yahoo.co.uk	1	8000	6	1388	775	False
1388	William	Oren	Oren@yahoo.co.uk	1	2000	6	1388	775	False
4700	Ifeoma	Chaney	Chaney@google.net	1	2000	6	4700	775	False
4700	Ifeoma	Chaney	Chaney@google.net	1	4000	6	4700	775	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3000	6	5613	775	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3500	6	5613	775	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	5000	4	188	111	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	1000	4	188	111	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	8000	6	188	111	False
359	Bruce	Hop	Hop@google.net	1	4000	4	359	111	False
452	Maggy	Garth	Garth@protonmail.com	1	3000	4	452	111	False
452	Maggy	Garth	Garth@protonmail.com	1	4000	4	452	111	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	6000	4	515	111	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	4	515	111	False
515	Michael	Hunter	lectus.convallis.est@google.org	1	5000	6	515	111	False
526	Fritz	Abel	massa@protonmail.ca	1	2000	6	526	111	False
526	Fritz	Abel	massa@protonmail.ca	1	7000	6	526	111	False
526	Fritz	Abel	massa@protonmail.ca	1	3000	6	526	111	False
549	Alisa	Chandler	Chandler@google.com	1	9000	6	549	111	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	1000	6	1113	111	False
1113	Scott	Hakeem	primis.in@protonmail.net	1	6000	4	1113	111	False
1388	William	Oren	Oren@yahoo.co.uk	1	8000	6	1388	111	False
1388	William	Oren	Oren@yahoo.co.uk	1	2000	6	1388	111	False
4700	Ifeoma	Chaney	Chaney@google.net	1	2000	6	4700	111	False
4700	Ifeoma	Chaney	Chaney@google.net	1	4000	6	4700	111	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3000	6	5613	111	False
5613	Naomi	Oscar	Oscar@hotmail.edu	1	3500	6	5613	111	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	5000	4	188	515	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	1000	4	188	515	False
188	Uriel	Lewis	Lewis@hotmail.co.uk	1	8000	6	188	515	False
359	Bruce	Hop	Hop@google.net	1	4000	4	359	515	False
452	Maggy	Garth	Garth@protonmail.com	1	3000	4	452	515	False

## Query 18

SELECT

person.firstName,  
person.lastName,  
person.email,  
person.SSN,  
SUM( total\_hours) as total\_hrs

FROM

person,  
employee,  
researcher,  
assigned

WHERE

assigned.assigned\_researcher = researcher.researcherID





AND researcher.researcherID = employee.employeeID

AND researcher.researcher\_companyID = employee.companyID

AND person.SSN = employee.empSSN

GROUP BY SSN

ORDER BY total\_hours DESC

Result Grid			 Filter Rows:	<input type="text"/>	Export: 	Wrap Cell Content: 
	firstName	lastName	email	SSN	total_hrs	
▶	Alisa	Chandler	Chandler@google.com	70560	9000	
	Demetrius	Prescott	Prescott@outlook.org	30876	13000	
	William	Oren	Oren@yahoo.couk	78272	24000	
	Kiayada	Noble	Noble@icloud.org	24016	15000	
	Michael	Hunter	lectus.convallis.est@google.org	896867	16000	
	Eleanor	Abraham	Abraham@icloud.com	11561	6000	
	Uriel	Lewis	Lewis@hotmail.couk	86600	14000	
	Ivory	Aaron	Aaron@icloud.com	14611	5000	
	Fritz	Todd	Todd@hotmail.com	80687	5000	
	Courtney	Chancellor	Chancellor@hotmail.edu	74136	5000	
	Bruce	Hop	Hop@google.net	14191	4000	
	Tate	Simon	Simon@outlook.org	40103	4000	
	Erica	Jelani	jelani@protonmail.org	99982	20000	
	Merritt	Zeph	Zeph@outlook.net	22025	4000	
	Lacy	Dedan	Dedan@icloud.edu	25036	3000	
	Echo	Lee	lee@hotmail.net	88401	3000	
	Naomi	Oscar	Oscar@hotmail.edu	63911	6500	
	Bryan	Hunter	consequat.enim@aol.couk	958743	10000	
	Maggy	Garth	Garth@protonmail.com	79281	7000	
	Imelda	Felix	tellus.imperdiet.non@outlook.c...	368692	11000	
	Briar	Vladimir	Vladimir@aol.org	12069	6000	
	Ifeoma	Chaney	Chaney@google.net	80852	6000	
	Fritz	Abel	massa@protonmail.ca	152070	12000	
	Kelly	Aidan	Aidan@icloud.ca	43097	7000	
	Scott	Hakeem	primis.in@protonmail.net	133543	17000	

## Query 19

SELECT

facility.facilityName AS facility,

facility.facilityCountry,

facility.facilityAddress,

team.teamName,

project.name AS project,

assigned\_project,

project.startDate,

project.endDate,

COUNT(DISTINCT assigned.assigned\_researcher) AS total\_researchers,

SUM(DISTINCT total\_hours)

```

FROM
    facility,
    project,
    researcher,
    team,
    assigned,
    company
WHERE
    project.project_companyID = company.cID
    AND company.companyName = 'Pfizer'
    AND facility.facilityType = 'research'
    AND facility.facilityCountry = 'USA'
    AND project.project_companyID = assigned_company
    AND assigned_project = project.projectID
    AND project.project_teamID = team.teamID
GROUP BY project.name

```

Result Grid   Filter Rows:   Export:   Wrap Cell Content:										
	facility	facilityCountry	facilityAddress	teamName	project	assigned_project	startDate	endDate	total_researchers	SUM(DISTINCT total_hours)
▶	2262 Lobortis St.	USA	1911 Ante Street	hfftwft	commodo	112	2017-09-08	2021-01-25	4	20000
	2262 Lobortis St.	USA	1911 Ante Street	hfftwft	convallis	111	2013-02-25	2022-06-27	4	18000
	Etiam PC	USA	7291 Vestibulum Rd.	purple	Duis	113	2005-07-30	2020-06-22	3	12000
	2262 Lobortis St.	USA	1911 Ante Street	hfftwft	gravida	115	2015-05-30	2017-11-10	6	25500
	Aliquet Diam Sed PC	USA	8676 Mus. St.	purple	vitae	114	2007-07-07	2011-07-15	4	16000





## Query 20

```

SELECT
    company.cID,
    company.companyName,
    purchase.purchaseDate,
    purchase_item.purchase_item_companyID,
    purchase.purchaseID,
    purchase_item.purchase_item_purchaseID,
    SUM(purchase_item.unitPrice),
    SUM(purchase_item.quantity)
FROM
    company,
    purchase,
    purchase_item
WHERE

```

company.cID = purchase\_item.purchase\_item\_companyID  
 AND purchase.purchaseID = purchase\_item.purchase\_item\_purchaseID  
 AND purchase.purchaseDate BETWEEN ' 2019-01-01' AND '2022-12-31'  
 GROUP BY purchaseID

Result Grid   Filter Rows: <input type="text"/>   Export:    Wrap Cell Content: 								
	cID	companyName	purchaseDate	purchase_item_companyID	purchaseID	purchase_item_purchaseID	SUM(purchase_item.unitPrice)	SUM(purchase_item.quantity)
▶	3	GSK	2022-12-16	3	3	3	100	600
	3	GSK	2021-06-13	3	4	4	20	100
	1	Pfizer	2021-03-30	1	5	5	100	200
	1	Pfizer	2019-02-12	1	6	6	120	500
	1	Pfizer	2019-10-14	1	7	7	80	400
	1	Pfizer	2022-06-16	1	8	8	100	300
	1	Pfizer	2020-01-01	1	9	9	100	500
	4	Pharma	2021-02-02	4	10	10	10	1000



## **SQL Insert Statements**

INSERT INTO ``

(`assigned\_project`,`assigned\_team`,`assigned\_facility`,`assigned\_company`,`assigned\_research`,`total\_hours`,`assigned\_startDate`,`assigned\_endDate`)VALUES

(111,4,51,1,188,5000,'2013-02-25','2022-06-27'),  
(111,4,51,1,359,4000,'2013-02-25','2022-06-27'),  
(111,4,51,1,452,3000,'2013-02-25','2022-06-27'),  
(111,4,51,1,515,6000,'2013-02-25','2022-06-27'),  
(112,6,71,1,526,2000,'2017-09-08','2021-01-25'),  
(112,6,71,1,549,9000,'2017-09-08','2021-01-25'),  
(112,6,71,1,1113,1000,'2017-09-08','2021-01-25'),  
(112,6,71,1,1388,8000,'2017-09-08','2021-01-25'),  
(113,6,71,1,526,7000,'2005-07-30','2020-06-22'),  
(113,6,71,1,4700,2000,'2005-07-30','2020-06-22'),  
(113,6,71,1,5613,3000,'2005-07-30','2020-06-22'),  
(114,4,51,1,188,1000,'2007-07-07','2011-07-15'),  
(114,4,51,1,452,4000,'2007-07-07','2011-07-15'),  
(114,4,51,1,515,5000,'2007-07-07','2011-07-15'),  
(114,4,51,1,1113,6000,'2007-07-07','2011-07-15'),  
(115,6,51,1,188,8000,'2015-05-30','2017-11-10'),  
(115,6,51,1,515,5000,'2015-05-30','2017-11-10'),  
(115,6,51,1,526,3000,'2015-05-30','2017-11-10'),  
(115,6,51,1,1388,2000,'2015-05-30','2017-11-10'),  
(115,6,51,1,4700,4000,'2015-05-30','2017-11-10'),  
(115,6,51,1,5613,3500,'2015-05-30','2017-11-10'),  
(334,5,53,3,64,8000,'2004-07-19','2012-10-31'),  
(334,5,53,3,232,7000,'2004-07-19','2012-10-31'),  
(334,5,53,3,247,3000,'2004-07-19','2012-10-31'),  
(334,5,53,3,758,4000,'2004-07-19','2012-10-31'),  
(334,5,53,3,1488,6000,'2004-07-19','2012-10-31'),  
(334,5,53,3,7287,5000,'2004-07-19','2012-10-31'),  
(444,2,24,4,387,8000,'2015-07-05','2022-12-16'),  
(444,2,24,4,727,3000,'2015-07-05','2022-12-16'),  
(444,2,24,4,775,4000,'2015-07-05','2022-12-16'),  
(444,2,24,4,898,2000,'2015-07-05','2022-12-16'),  
(444,2,24,4,2222,5000,'2015-07-05','2022-12-16'),  
(444,2,24,4,4243,4000,'2015-07-05','2022-12-16'),  
(445,2,24,4,387,5000,'2009-10-14','2015-05-31'),  
(445,2,24,4,727,7000,'2009-10-14','2015-05-31'),  
(445,2,24,4,775,6000,'2009-10-14','2015-05-31'),  
(445,2,24,4,898,5000,'2009-10-14','2015-05-31');

INSERT INTO ``

(`clientID`,`clientPhone`,`clientName`,`clientCountry`,`clientContactName`,`clientAddress`,`clientCity`,`clientProvince`,`clientPostalCode`) VALUES

(1,'(331) 629-3875','Government Of Canada','CA','Alexandra Wiley','P.O. Box 694, 8517 Egestas Street','Toronot','Ontario','796045'),

(2,'1-352-348-2074','United Nation Health','USA','Jena Dillon','5510 Pede Rd.','Dallas','Texas','93-785'),

(3,'(126) 564-6788','Walmart','CA','Ori Neal','Ap #348-3879 Diam Rd.','Boryeong','Biobío','865034'),

(4,'(313) 862-2141','Amazon','CA','Erich Estes','Ap #203-1954 Convallis Av.','Yurimaguas','Istanbul','3838'),

(5,'(388) 729-3864','Sams Club','CA','Indira Mccarty','758 Faucibus Rd.','Bolsward','West Kalimantan','4227'),

(6,'(243) 871-2524','Mayo Clinic','CA','Chiquita Salas','Ap #905-7239ELIT. Rd.','Yahyalı','Orenburg Oblast','434934'),

(7,'1-321-391-4603','Walgreens','CA','Erich Everett','9244 Lacus. Rd.','Bilbo','Sakhalin Oblast','1036'),

(8,'(318) 156-7317','Alpine Medicine','USA','Ori Snow','355-728 Ac Ave','Cork','Van','6751'),

(9,'1-309-532-6975','John Hopkins','USA','Jakeem Morrison','997-3753 Non St.','Concón','Veneto','27665'),

(10,'1-925-467-7481','Harvard Medical School','USA','Iliana Kelly','817-834 Risus. St.','Baddeck','North Gyeongsang','20647');

INSERT INTO `` (`clID`,`ceoID`,`headOfficelD`,`companyName`) VALUES (1,511,11,'Pfizer');

(2,209,12,'Moderna'),

(3,108,13,'GSK'),

(4,949,14,'Pharma'),

(5,7846,15,'Roche');

INSERT INTO ``

(`contractID`,`client\_clientID`,`purchase\_purchaseID`,`company\_companyID`,`employee\_of\_company`,`client\_employee`) VALUES (2,4,6,1,359,'Roger Adams'),

(3,5,7,1,452,'Sam West'),

(4,6,8,1,511,'Bob Hill'),

(5,7,9,1,515,'David Green'),

(6,8,1,1,515,'Clark Brown'),

(7,2,10,2,2323,'Jimmy Sampson'),

(8,10,3,3,108,'Vicky Tanner'),

(9,9,4,3,232,'Emily Watson'),

(10,3,11,4,727,'Tiffany Rock'),

(11,4,12,4,898,'Angela Johnson'),

(12,9,13,5,1515,'Mindy Moore'),

(13,10,14,5,3114,'Patty F');

```
INSERT INTO `` (`employeeID`,`companyID`,`empSSN`) VALUES (721,3,11561);
(758,3,12069),
(359,1,14191),
(7287,3,14611),
(2470,2,22025),
(64,3,24016),
(485,2,25036),
(387,4,30876),
(4243,4,40103),
(898,4,43097),
(949,3,62120),
(5613,1,63911),
(549,1,70560),
(5164,2,74136),
(138,2,78272),
(1388,1,78272),
(1488,3,78272),
(452,1,79281),
(193,2,80687),
(4700,1,80852),
(188,1,86600),
(633,3,88401),
(775,4,99982),
(111,2,133543),
(1112,3,133543),
(1113,1,133543),
(526,1,152070),
(511,1,167885),
(232,2,285646),
(7846,5,357711),
(247,3,368692),
(2222,4,368692),
(2323,2,368692),
(9882,5,405966),
(114,2,420063),
(1762,5,473020),
(209,4,479371),
(1729,5,486823),
(3114,5,601679),
(3265,5,673110),
(108,1,740241),
(6766,5,807667),
(1515,5,814964),
(515,1,896867),
```

(5916,5,912152),  
6081,5,947072),  
(727,4,958743);

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (11,1,'Head','O7C 0M3','Ullamcorper Viverra','1-104-198-1624','P.O. Box 437, 6630 Blandit St.','USA','Felixstowe','California');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (12,2,'Head','T3Y 0K5','Nulla Eget Incorporated','(880) 214-8775','1519 Tortor, St.','CA','Calgary','Alberta');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (13,3,'Head','OB8 7JG','Quis Arcu Vel Inc.','1-277-734-7264','9834 Egestas St.','CA','Ottawa','Ontario');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (14,4,'Head','T7J 5ND','Integer LLP','1-616-275-7823','573 Dui St.','USA','Watson Lake','Virginia');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (15,5,'Head','Y3H 4E3','Magnis Inc.','1-872-834-0472','4025 Ipsum Street','CA','Collins','New Brunswick');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (21,1,'warehouse','93038','Litora Foundation','(411) 638-7177','331-6829 Fusce Av.','CA','Stonewall','Connecticut');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (22,2,'warehouse','32C 3M8','Non Quam Inc.','1-953-863-9326','3496 Ut Ave','USA','Rochester','Cambridgeshire');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (23,3,'research','H54 2BB','Sollicitudin Incorporated','(384) 235-8208','2205 Accumsan Av.','CA','Montreal','Quebec');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (24,4,'research','56387','Augue Foundation','1-414-865-7116','4145 At Road','USA','Minneapolis','Missouri');

INSERT INTO ``

(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (25,5,'research','56387','Augue Foundation','1-414-865-7116','4145 At Road','USA','Minneapolis','Missouri');

```

ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (25,5,'warehouse','U4N 3K4','5500
Donec St.','1-641-812-8212','5586 Ullamcorper. Avenue','USA','Stonewall','Manitoba');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (31,1,'factory','K5A 5E3','Feugiat
PC','(982) 997-8816','1783 Ac Av','UK','Ledbury','Nottinghamshire');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (32,2,'factory','IU82
4WI','Pellentesque Ut Ipsum LLP','1-392-278-1263','1566 Vitae
St','UK','Uppingham','Buckinghamshire');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (33,3,'factory','y7E 8X1','Elit
Incorporated','1-271-919-0771','7476 Ullamcorper Road','CA','Quebec','Quebec');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (35,5,'research','51728','2262
Lobortis St.','1-611-760-6366','1911 Ante Street','USA','Jackson','Washington');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (41,1,'factory','S0K 4C8','Nisi Mauris
Nulla','1-123-747-9561','696 Faucibus St.','CA','Stratford','Newfoundland and Labrador');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (42,2,'research','44272','Ultrices
Institute','1-817-469-7572','8046 Sed Avenue','USA','Denver','Mississippi');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (43,3,'warehouse','RN7 3BI','Morbi
Company','1-787-734-6633','835 Metus. Ave','USA','Saint John','Hawaii');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (45,5,'factory','60567','5804
Imperdiet Rd.','1-218-841-1298','9392 Quis, Ave','USA','Springfield','Oregon');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (51,1,'research','55393','Aliquet
Diam Sed PC','(252) 488-8450','8676 Mus. St.','USA','Houston','Texas');
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddre
ss`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (53,3,'research','U4N
3K4','Pellentesque Foundation','(663) 336-2454','3626 Urna,
Street','UK','Monmouth','Lancashire');

```

```
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (61,1,'warehouse','T6M 1P1','Vitae Velit Ltd','1-803-318-6117','843 Elementum St.','CA','Charlottetown','British Columbia');
```

```
INSERT INTO ``
(`fID`,`companyID`,`facilityType`,`facilityPostalCode`,`facilityName`,`facilityPhone`,`facilityAddress`,`facilityCountry`,`facilityCity`,`facilityProvince`) VALUES (71,1,'research','M8E 8ME','Etiam PC','1-591-286-5832','7291 Vestibulum Rd.','USA','Haverfordwest','Ontario');
```

```
INSERT INTO `` (`headFID`,`companyID`,`email`,`website`) VALUES
(11,1,'contact@pfizer.com','www.pzfier.com');
```

```
INSERT INTO `` (`headFID`,`companyID`,`email`,`website`) VALUES
(12,2,'contact@moderna.com','www.mderna.com');
```

```
INSERT INTO `` (`headFID`,`companyID`,`email`,`website`) VALUES
(13,3,'help@gsk.com','www.gsk.com');
```

```
INSERT INTO `` (`headFID`,`companyID`,`email`,`website`) VALUES
(14,4,'contact@pharma.com','www.pharma.com');
```

```
INSERT INTO `` (`headFID`,`companyID`,`email`,`website`) VALUES
(15,5,'roche@roche.com','www.roche.com');
```

```
INSERT INTO `` (`ManufacturingFID`,`companyID`,`productionCap`) VALUES (31,1,7800);
```

```
INSERT INTO `` (`ManufacturingFID`,`companyID`,`productionCap`) VALUES (32,2,6000);
```

```
INSERT INTO `` (`ManufacturingFID`,`companyID`,`productionCap`) VALUES (33,3,2000);
```

```
INSERT INTO `` (`ManufacturingFID`,`companyID`,`productionCap`) VALUES (41,1,5000);
```

```
INSERT INTO `` (`ManufacturingFID`,`companyID`,`productionCap`) VALUES (45,5,9000);
```

```
INSERT INTO ``
```

```
(`SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`salary`,`country`,`phone`) VALUES (11561,'Eleanor','Abraham','USA','62Y 4M2','Delaware','Abraham@icloud.com','P.O. Box 417, 7345 Amet Avenue','Gresham','148088','Canada','(571) 334-3420');
```

```
INSERT INTO ``
```

```
(`SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`salary`,`country`,`phone`) VALUES (12069,'Briar','Vladimir','UK','92597','Florida','Vladimir@aol.org','196-7353 Felis Road','Nashville','87479','United Kingdom','(454) 763-2154');
```

```
INSERT INTO ``
```

```
(`SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`salary`,`country`,`phone`) VALUES (14191,'Bruce','Hop','CA','K6B 6B3','Ontario','Hop@google.net','Ap #467-5590 Non, Street','Pointe-au-Pic','107070','United Kingdom','(546) 492-1214');
```

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (14611,'Ivory','Aaron','USA','V6L1X3','Alberta','Aaron@icloud.com','P.O. Box 391, 702 Venenatis Rd.','Fort Good Hope','114093','United States','1-222-716-3606');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (22025,'Merritt','Zeph','CA','72241','Nova Scotia','Zeph@outlook.net','124-4505 Turpis. Rd.','Lakewood','73093','United States','(686) 614-0742');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (24016,'Kiayada','Noble','UK','EL9 3JP','Newfoundland and Labrador','Noble@icloud.org','Ap #892-2555 Lorem Road','Fort Laird','110157','Canada','1-278-766-3375');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (25036,'Lacy','Declan','USA','d3V0B6','Utah','Declan@icloud.edu','Ap #675-4828 Aliquam St.','Portland','67253','United States','(885) 895-8413');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (30876,'Demetrius','Prescott','USA','TS22FW','Nunavut','Prescott@outlook.org','372-7847 Vulputate, Rd.','Wichita','79881','United Kingdom','(577) 451-2942');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (40103,'Tate','Simon','UK','T12QE','Yukon','Simon@outlook.org','219-4983 Tincidunt Av.','Hamilton','74004','Canada','(379) 868-3375');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (43097,'Kelly','Aidan','UK','94613','Northwest Territories','Aidan@icloud.ca','P.O. Box 150, 6199 Duis Avenue','Wha Ti','102993','Canada','1-608-672-6155');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (62120,'Christian','Grady','USA','S7W5L1','Florida','malesuada.malesuada@outlook.ca','P.O. Box 395, 3484 Convallis Road','Miami','95000','United States','1-392-751-3318');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (63911,'Naomi','Oscar','USA','FQ48

```

4IE','Cardiganshire','Oscar@hotmail.edu','Ap #406-8686 Lorem, St.','Penicuik','131037','United
Kingdom','1-274-226-9621');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (70560,'Alisa','Chandler','CA','Y3W
8T1','Alberta','Chandler@google.com','7338 Ac Avenue','Hudson Bay','106379','Canada','(999)
385-6761');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES
(74136,'Courtney','Chancellor','UK','45114','Dorset','Chancellor@hotmail.edu','Ap #531-1288
Suspendisse Road','West Jordan','140954','United States','(122) 494-6580');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (78272,'William','Oren','UK','54T
7E4','Mississippi','Oren@yahoo.couk','816 Donec Road','Stratford','86536','Canada','(833)
545-2888');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (79281,'Maggy','Garth','CA','TK7
9EQ','Florida','Garth@protonmail.com','146-1495 Ante St.','Saint-Laurent','101478','United
States','(785) 857-2212');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (80687,'Fritz','Todd','CA','P8
6NF','Leicestershire','Todd@hotmail.com','217-5081 Faucibus. Rd.','Whitehorse','82183','United
States','1-114-713-2337');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (80852,'Ifeoma','Chaney','CA','H1
7WV','Colorado','Chaney@google.net','2961 Porttitor St.','Flin Flon','114563','Canada','(596)
289-9751');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES
(86600,'Uriel','Lewis','CA','81546','Arizona','Lewis@hotmail.couk','872-9459 Est
St.','Columbus','67795','Canada','(582) 212-4334');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (88401,'Echo','Lee','UK','FI4
8LZ','Derbyshire','lee@hotmail.net','188-7323 Dictum
Street','Haverfordwest','93411','Canada','1-772-627-4768');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala

```



```

ry`,`country`,`phone`) VALUES (99982,'Erica','Jelani','USA','52N
8V6','Montana','jelani@protonmail.org','Ap #202-4422 In
Av.','Eyemouth','110173','Canada','(128) 114-8717');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (133543,'Scott','Hakeem','CA','G9B
1T7','Quebec','primis.in@protonmail.net','7022 CDN, Avenue','Quebec','60000','Canada','(963)
162-9052');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (152070,'Fritz','Abel','UK','C2E
4J0','Nairnshire','massa@protonmail.ca','445-8312 Aliquam Road','Nairn','78000','United
Kingdom','1-566-282-1877');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES
(167885,'Judah','Josiah','UK','31754','Quebec','in.dolor@yahoo.org','1164 NDG
Ave','Montreal','870000','Canada','1-465-276-7444');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (285646,'Paki','Ethan','USA','E1X
2H3','Nebraska','nibh@aol.com','4809 Nec Ave','Omaha','65000','United
States','1-202-491-5776');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES
(357711,'Hasad','Edan','Canada','673574','Ontario','hasad-edan@yahoo.couk','Ap #539-5000
Diam. Rd.','Chesapeake','128164','Germany','1-767-361-6771');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES
(368692,'Imelda','Felix','UK','46023','Yorkshire','tellus.imperdiet.non@outlook.com','P.O. Box
374, 7145 Semper St.','York','77000','United Kingdom','1-728-706-7640');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (405966,'Ursula','Zachary','United
Kingdom','2676','Derbyshire','zachary_ursula@yahoo.com','P.O. Box 314, 9704 Tempor
St.','Austin','123274','United Kingdom','(847) 877-3014');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (420063,'Roanna','Darius','UK','R0X
7C2','Banffshire','cursus.nunc.mauris@protonmail.net','593-6511 Sapien,
Av.','Cullen','80000','United Kingdom','1-382-738-7972');

```

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (473020,'Seth','Axel','United Kingdom','517860','Ontario','s\_axel4191@google.com','Ap #197-2575 Nonummy Avenue','Philadelphia','107236','Ukraine','(268) 423-2723');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (479371,'Patrick','Samuel','UK','MW9C 5RL','Washington','risus.in@icloud.org','167-7649 Lectus. Avenue','Seattle','110000','United States','1-812-556-3272');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (486823,'Bradley','Derek','United States','83842','Buteshire','bderek@yahoo.couk','Ap #818-4005 Urna. St.','Saint John','115916','France','1-316-571-6301');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (601679,'Thor','Aidan','Canada','50985','West Lothian','aidanthor@outlook.couk','Ap #894-4793 Massa. Rd.','Houston','96186','Canada','1-242-165-4148');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (673110,'Lani','Forrest','Canada','3315','Mississippi','forrest\_lani3216@outlook.net','7293 A Ave','Milford Haven','63681','South Africa','(629) 774-3177');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (740241,'Brynne','Michael','CA','87191','Mississippi','mauris.quis@icloud.net','922-1088 Nibh. Road','Oxford','100000','United States','(651) 329-6051');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (807667,'Martin','Amir','Canada','879148','Alabama','m.amir@protonmail.com','8857 Proin St.','Stratford','69216','Peru','1-257-521-1251');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (814964,'Fatima','Wade','United States','C0T 6K1','Clackmannanshire','f\_wade9594@aol.couk','858-9767 Lobortis St.','Jedburgh','108615','Poland','1-645-831-3167');

INSERT INTO ``

('SSN','firstName','lastName','citizenship','postalCode','province','email','address','city','salary','country','phone') VALUES (896867,'Michael','Hunter','CA','JT6D 5NP','Nova

```

Scotia','lectus.convallis.est@google.org','Ap #541-4438 Convallis,
Street','Westmount','77000','Canada','1-285-173-3210');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (912152,'Rhonda','Price','United States','89830','West
Lothian','price.rhonda9180@google.edu','5792 Scelerisque Av.','East
Linton','56428','Indonesia','(714) 613-7176');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (947072,'Zeus','Judah','United
States','91-878','Minnesota','zeus-judah@aol.com','Ap #866-3497 Nec,
Street','Kircudbright','55389','Singapore','1-447-346-8924');
INSERT INTO ``
(SSN`,`firstName`,`lastName`,`citizenship`,`postalCode`,`province`,`email`,`address`,`city`,`sala
ry`,`country`,`phone`) VALUES (958743,'Bryan','Hunter','CA','T2R 5Z7','British
Columbia','consequat.enim@aol.couk','Ap #160-8816 Lacus.
St.','Vancouver','70000','Canada','1-962-668-7678');

INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (1,1,'Vaccine of
Pfizer','100000','100','PFZ123','2','Pfizer_vaccine','Available');
INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (2,1,'Bandages of
Pfizer','50000','15','PFZ101','3','Pfizer_bandages','Not Available');
INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (3,2,'Vaccine of
Moderna','200000','110','MD123','4','Moderna_vaccine','Available');
INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (4,2,'Bandages of
Moderna','55555','10','MD202','3','Moderna_bandages','Not Available');
INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (5,3,'Vaccine of
GSK','300000','200','GSK123','2','GSK_vaccine','Available');
INSERT INTO ``
(productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (6,3,'Bandages of
GSK','15555','20','GSK222','1','GSK_bandages','Available');

```

```

INSERT INTO ``
(`productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (7,4,'Vaccine of
Pharma','5000','10','Pharma123','3','Pharma_vaccine','Not Available');
INSERT INTO ``
(`productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (8,4,'Bandages of
Pharma','10000','30','Pharma67','3','Pharma_bandages','Not Available');
INSERT INTO ``
(`productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (9,5,'Vaccine
Roche','200000','50','Roche123','2','RocheVaccine','Available');
INSERT INTO ``
(`productID`,`product_company`,`productDescription`,`productVolume`,`productPrice`,`UPC`,`pr
oductWeight`,`productName`,`productStatus`) VALUES (10,5,'Bandages of
Roche','4000','10','Roche2','1','RocheBandages','Available');

```

```

INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (111,1,51,1,'2013-02-25','2022-06-27','conval');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (112,1,71,1,'2017-09-08','2021-01-25','commodo');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (113,6,51,1,'2005-07-30','2020-06-22','Duis');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (114,6,51,1,'2007-07-07','2011-07-15','vitae');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (115,1,51,1,'2015-05-30','2017-11-10','gravida');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (222,3,42,2,'2015-03-03','2019-03-12','lorem');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (223,3,42,2,'2006-12-02','2019-09-21','lectus');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`na
me`) VALUES (333,1,23,3,'2015-02-02','2021-03-12','nisi');

```

```

INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (334,5,53,3,'2004-07-19','2012-10-31','vestibulum');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (444,2,24,4,'2015-07-05','2022-12-16','Nunc');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (445,2,24,4,'2009-10-14','2015-05-31','Nullam');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (555,7,35,5,'2016-06-27','2020-01-18','tellus');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (556,7,35,5,'2020-06-27','2021-01-23','dolor');
INSERT INTO ``
(`projectID`,`project_teamID`,`project_facilityID`,`project_companyID`,`startDate`,`endDate`,`name`) VALUES (777,1,51,1,'2009-01-10','2022-02-13','ugu');

```

```

INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (1,'2010-09-20');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (2,'2011-10-15');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (3,'2022-12-16');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (4,'2021-06-13');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (5,'2021-03-30');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (6,'2019-02-12');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (7,'2019-10-14');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (8,'2022-06-16');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (9,'2020-01-01');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (10,'2021-02-02');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (11,'2018-01-01');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (12,'2017-01-01');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (13,'2023-01-01');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (14,'2021-09-03');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (15,'2022-05-05');
INSERT INTO `` (`purchaseID`,`purchaseDate`) VALUES (16,'2022-07-08');

```

```

INSERT INTO ``
(`purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantity`,`unitPrice`) VALUES (1,1,1,500,50);
INSERT INTO ``
(`purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantity`,`unitPrice`) VALUES (1,1,5,200,100);

```

```

INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (1,1,6,500,120);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (1,1,7,400,80);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (1,1,8,300,100);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (1,1,9,500,100);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (3,2,2,400,150);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (5,3,3,600,100);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (6,3,4,100,20);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (7,4,10,1000,10);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (8,4,11,500,40);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (9,5,12,2000,30);
INSERT INTO ``
('purchase_item_productID`,`purchase_item_companyID`,`purchase_item_purchaseID`,`quantit
y`,`unitPrice`) VALUES (10,5,13,1000,20);

INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (188,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (359,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (452,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (515,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (526,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (549,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (1113,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (1388,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (4700,1);
INSERT INTO `` ('researcherID`,`researcher_companyID`) VALUES (5613,1);

```

```

INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (111,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (138,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (193,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (485,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (2323,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (2470,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (5164,2);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (64,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (232,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (247,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (633,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (721,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (758,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (1112,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (1488,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (7287,3);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (387,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (727,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (775,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (898,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (2222,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (4243,4);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (1515,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (1729,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (1762,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (3114,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (3265,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (5916,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (6081,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (6766,5);
INSERT INTO `` (`researcherID`,`researcher_companyID`) VALUES (9882,5);

```

```

INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (51,1);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (71,1);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (42,2);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (23,3);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (53,3);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (24,4);
INSERT INTO `` (`ResearchFID`,`Research_companyID`) VALUES (35,5);

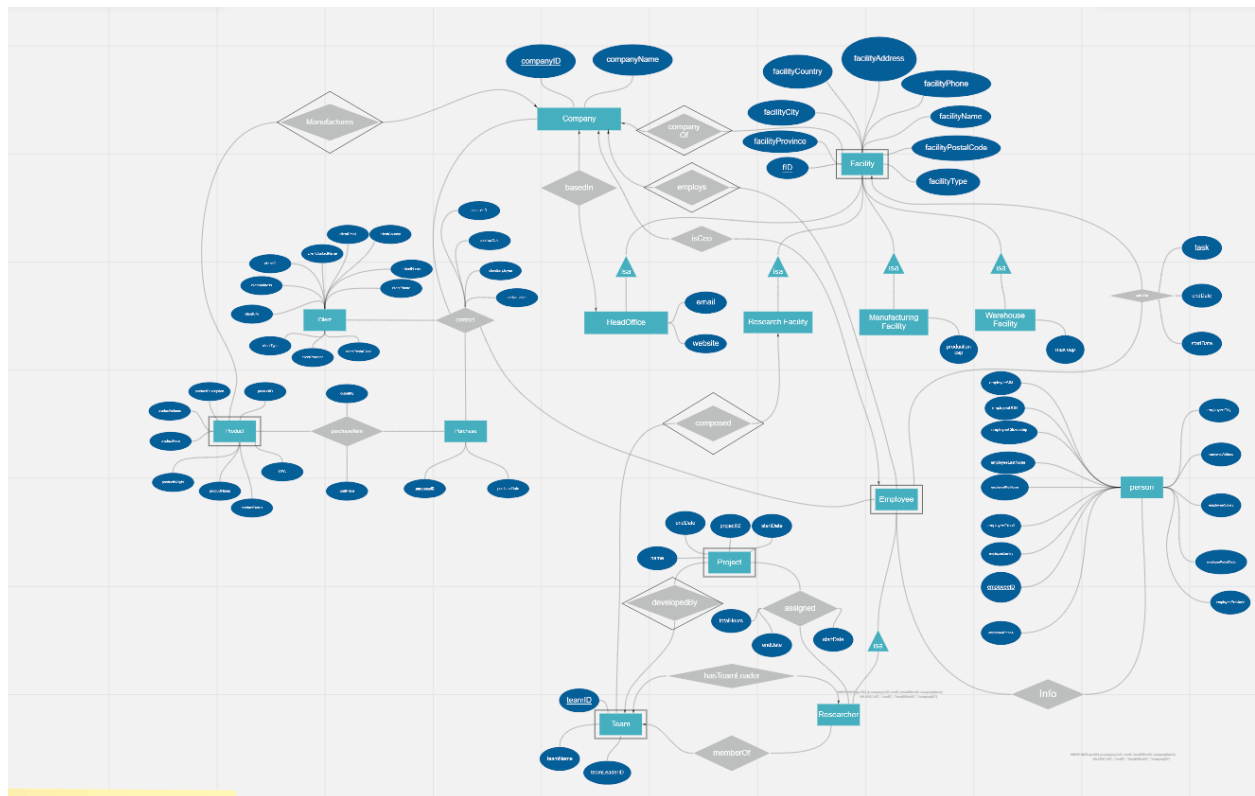
```

```

INSERT INTO ``
('teamID`,`team_researchFID`,`team_companyID`,`teamName`,`teamLeaderID`) VALUES
(2,24,4,'Blue',775);
INSERT INTO ``
('teamID`,`team_researchFID`,`team_companyID`,`teamName`,`teamLeaderID`) VALUES
(4,51,1,'Orange',515);
INSERT INTO ``
('teamID`,`team_researchFID`,`team_companyID`,`teamName`,`teamLeaderID`) VALUES
(5,53,3,'Green',247);
INSERT INTO ``
('teamID`,`team_researchFID`,`team_companyID`,`teamName`,`teamLeaderID`) VALUES
(6,71,1,'purple',526);
INSERT INTO ``
('teamID`,`team_researchFID`,`team_companyID`,`teamName`,`teamLeaderID`) VALUES
(7,35,5,'White',1515);

INSERT INTO `` (`warehouseFID`,`companyID`,`maxcap`) VALUES (21,1,8445);
INSERT INTO `` (`warehouseFID`,`companyID`,`maxcap`) VALUES (22,2,9649);
INSERT INTO `` (`warehouseFID`,`companyID`,`maxcap`) VALUES (25,5,9925);
INSERT INTO `` (`warehouseFID`,`companyID`,`maxcap`) VALUES (43,3,5171);
INSERT INTO `` (`warehouseFID`,`companyID`,`maxcap`) VALUES (61,1,2247);

```





[https://miro.com/app/board/uXjVON71HgE=](https://miro.com/app/board/uXjVON71HgE=/)

## **Contribution**

ER Diagram	William Chittavong & Fadi Girgis
DB design	William Chittavong & Fadi Girgis
DB values	William Chittavong & Fadi Girgis
ER conversion	William Chittavong & Fadi Girgis
FDs	William Chittavong & Fadi Girgis
Query11	Neemtallah Attie & Laurent Romulus
Query12	Neemtallah Attie & Laurent Romulus
Query13	Fadi Girgis
Query14	Fadi Girgis
Query15	Fadi Girgis
Query16	Fadi Girgis
Query17	Fadi Girgis
Query18	William Chittavong
Query19	William Chittavong
Query20	William Chittavong
Insert Statements	Fadi Girgis
Create Statement	William Chittavong
GUI	Neemtallah Attie & Laurent Romulus & William Chittavong

## **CREATE TABLES STATEMENTS**

-- MySQL Workbench Forward Engineering

SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0;

```
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS,
FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_
ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';
```

```
-- Schema mydb
```

```
-- Schema qoc353_4
```

```
-- Schema qoc353_4
```

```
CREATE SCHEMA IF NOT EXISTS `qoc353_4` DEFAULT CHARACTER SET utf8 COLLATE
utf8_unicode_ci ;
USE `qoc353_4` ;
```

```
-- Table `qoc353_4`.`person`
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`person` (
  `SSN` INT NOT NULL,
  `firstName` VARCHAR(45) NULL DEFAULT NULL,
  `lastName` VARCHAR(45) NULL DEFAULT NULL,
  `citizenship` VARCHAR(45) NULL DEFAULT NULL,
  `postalCode` VARCHAR(45) NULL DEFAULT NULL,
  `province` VARCHAR(45) NULL DEFAULT NULL,
  `email` VARCHAR(45) NULL DEFAULT NULL,
  `address` VARCHAR(45) NULL DEFAULT NULL,
  `city` VARCHAR(45) NULL DEFAULT NULL,
  `salary` VARCHAR(45) NULL DEFAULT NULL,
  `country` VARCHAR(45) NULL DEFAULT NULL,
  `phone` VARCHAR(45) NULL DEFAULT NULL,
  PRIMARY KEY (`SSN`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8
COLLATE = utf8_unicode_ci;
```

```
-- Table `qoc353_4`.`employee`
```

```

-----
CREATE TABLE IF NOT EXISTS `qoc353_4`.`employee` (
  `employeeID` INT NOT NULL,
  `companyID` INT NOT NULL,
  `empSSN` INT NOT NULL,
  PRIMARY KEY (`employeeID`, `companyID`),
  INDEX `companyID_idx` (`companyID` ASC) VISIBLE,
  INDEX `empSSN_idx` (`empSSN` ASC) VISIBLE,
  CONSTRAINT `companyID`
    FOREIGN KEY (`companyID`)
      REFERENCES `qoc353_4`.`company` (`cID`)
        ON DELETE CASCADE
        ON UPDATE CASCADE,
  CONSTRAINT `empSSN`
    FOREIGN KEY (`empSSN`)
      REFERENCES `qoc353_4`.`person` (`SSN`)
        ON DELETE CASCADE
        ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-----
-- Table `qoc353_4`.`facility`
-----

```

```

CREATE TABLE IF NOT EXISTS `qoc353_4`.`facility` (
  `fID` INT NOT NULL,
  `companyID` INT NOT NULL,
  `facilityType` VARCHAR(45) NULL DEFAULT NULL,
  `facilityPostalCode` VARCHAR(45) NULL DEFAULT NULL,
  `facilityName` VARCHAR(45) NULL DEFAULT NULL,
  `facilityPhone` VARCHAR(45) NULL DEFAULT NULL,
  `facilityAddress` VARCHAR(45) NULL DEFAULT NULL,
  `facilityCountry` VARCHAR(45) NULL DEFAULT NULL,
  `facilityCity` VARCHAR(45) NULL DEFAULT NULL,
  `facilityProvince` VARCHAR(45) NULL DEFAULT NULL,
  PRIMARY KEY (`fID`, `companyID`),
  INDEX `companyID_idx` (`companyID` ASC) VISIBLE,
  CONSTRAINT `facility_companyID`
    FOREIGN KEY (`companyID`)
      REFERENCES `qoc353_4`.`company` (`cID`)
        ON DELETE CASCADE
        ON UPDATE CASCADE)

```

```
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

```
-- -----
-- Table `qoc353_4`.`company`
-- -----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`company` (
  `cID` INT NOT NULL,
  `ceolD` INT NULL DEFAULT NULL,
  `headOfficeID` INT NULL DEFAULT NULL,
  `companyName` VARCHAR(45) NULL DEFAULT NULL,
  PRIMARY KEY (`cID`),
  INDEX `company_ceolD_idx` (`ceolD` ASC) VISIBLE,
  INDEX `company_headOfficeID_idx` (`headOfficeID` ASC) VISIBLE,
  CONSTRAINT `company_ceolD`
    FOREIGN KEY (`ceolD`)
      REFERENCES `qoc353_4`.`employee` (`employeeID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE,
  CONSTRAINT `company_headOfficeID`
    FOREIGN KEY (`headOfficeID`)
      REFERENCES `qoc353_4`.`facility` (`fID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

```
-- -----
-- Table `qoc353_4`.`project`
-- -----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`project` (
  `projectID` INT NOT NULL,
  `project_teamID` INT NOT NULL,
  `project_facilityID` INT NOT NULL,
  `project_companyID` INT NOT NULL,
  `startDate` DATE NULL DEFAULT NULL,
  `endDate` DATE NULL DEFAULT NULL,
  `name` VARCHAR(45) NULL DEFAULT NULL,
  PRIMARY KEY (`projectID`, `project_teamID`, `project_facilityID`, `project_companyID`),
  INDEX `project_teamID_idx` (`project_teamID` ASC) VISIBLE,
```

```
INDEX `project_facilityID_idx` (`project_facilityID` ASC) VISIBLE,  
INDEX `project_companyID_idx` (`project_companyID` ASC) VISIBLE)  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

```
-- -----  
-- Table `qoc353_4`.`researcher`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`researcher` (  
  `researcherID` INT NOT NULL,  
  `researcher_companyID` INT NOT NULL,  
  PRIMARY KEY (`researcherID`, `researcher_companyID`),  
  INDEX `Researcher_companyID_idx` (`researcher_companyID` ASC) VISIBLE,  
  CONSTRAINT `Researcher_companyID`  
    FOREIGN KEY (`researcher_companyID`)  
      REFERENCES `qoc353_4`.`company` (`cID`)  
      ON DELETE CASCADE  
      ON UPDATE CASCADE,  
  CONSTRAINT `Researcher_researcherID`  
    FOREIGN KEY (`researcherID`)  
      REFERENCES `qoc353_4`.`employee` (`employeeID`))  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

```
-- -----  
-- Table `qoc353_4`.`team`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`team` (  
  `teamID` INT NOT NULL,  
  `team_researchFID` INT NOT NULL,  
  `team_companyID` INT NOT NULL,  
  `teamName` VARCHAR(45) NULL DEFAULT NULL,  
  `teamLeaderID` INT NULL DEFAULT NULL,  
  PRIMARY KEY (`teamID`, `team_researchFID`, `team_companyID`),  
  INDEX `team_researchFID_idx` (`team_researchFID` ASC) VISIBLE,  
  INDEX `team_companyID_idx` (`team_companyID` ASC) VISIBLE,  
  CONSTRAINT `team_companyID`  
    FOREIGN KEY (`team_companyID`)  
      REFERENCES `qoc353_4`.`company` (`cID`)  
      ON DELETE CASCADE
```

```

    ON UPDATE CASCADE,
    CONSTRAINT `team_researchFID`
    FOREIGN KEY (`team_researchFID`)
    REFERENCES `qoc353_4`.`facility` (`fID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-- -----
-- Table `qoc353_4`.`assigned`
-- -----

```

```

CREATE TABLE IF NOT EXISTS `qoc353_4`.`assigned` (
  `assigned_project` INT NOT NULL,
  `assigned_team` INT NOT NULL,
  `assigned_facility` INT NOT NULL,
  `assigned_company` INT NOT NULL,
  `assigned_researcher` INT NOT NULL,
  `total_hours` INT NULL DEFAULT NULL,
  `assigned_startDate` DATE NULL DEFAULT NULL,
  `assigned_endDate` DATE NULL DEFAULT NULL,
  PRIMARY KEY (`assigned_project`, `assigned_team`, `assigned_facility`,
`assigned_company`, `assigned_researcher`),
  INDEX `assigned_team_idx` (`assigned_team` ASC) VISIBLE,
  INDEX `assigned_facility_idx` (`assigned_facility` ASC) VISIBLE,
  INDEX `assigned_company_idx` (`assigned_company` ASC) VISIBLE,
  INDEX `assigned_researcher_idx` (`assigned_researcher` ASC) VISIBLE,
  CONSTRAINT `assigned_company`
    FOREIGN KEY (`assigned_company`)
    REFERENCES `qoc353_4`.`company` (`cID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
  CONSTRAINT `assigned_facility`
    FOREIGN KEY (`assigned_facility`)
    REFERENCES `qoc353_4`.`facility` (`fID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
  CONSTRAINT `assigned_project`
    FOREIGN KEY (`assigned_project`)
    REFERENCES `qoc353_4`.`project` (`projectID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,

```

```
CONSTRAINT `assigned_researcher`  
  FOREIGN KEY (`assigned_researcher`)  
    REFERENCES `qoc353_4`.`researcher` (`researcherID`)  
  ON DELETE CASCADE  
  ON UPDATE CASCADE,  
CONSTRAINT `assigned_team`  
  FOREIGN KEY (`assigned_team`)  
    REFERENCES `qoc353_4`.`team` (`teamID`)  
  ON DELETE CASCADE  
  ON UPDATE CASCADE)  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

```
-----  
-- Table `qoc353_4`.`clients`  
-----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`clients` (  
  `clientID` INT NOT NULL,  
  `clientPhone` VARCHAR(45) NULL DEFAULT NULL,  
  `clientName` VARCHAR(45) NULL DEFAULT NULL,  
  `clientCountry` VARCHAR(45) NULL DEFAULT NULL,  
  `clientContactName` VARCHAR(45) NULL DEFAULT NULL,  
  `clientAddress` VARCHAR(45) NULL DEFAULT NULL,  
  `clientCity` VARCHAR(45) NULL DEFAULT NULL,  
  `clientProvince` VARCHAR(45) NULL DEFAULT NULL,  
  `clientPostalCode` VARCHAR(45) NULL DEFAULT NULL,  
  PRIMARY KEY (`clientID`))  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

```
-----  
-- Table `qoc353_4`.`purchase`  
-----
```

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`purchase` (  
  `purchaseID` INT NOT NULL,  
  `purchaseDate` DATE NULL DEFAULT NULL,  
  PRIMARY KEY (`purchaseID`))  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

-- -----  
-- Table `qoc353\_4`.`contract`  
-- -----

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`contract` (  
  `contractID` INT NOT NULL,  
  `client_clientID` INT NULL DEFAULT NULL,  
  `purchase_purchaseID` INT NULL DEFAULT NULL,  
  `company_companyID` INT NULL DEFAULT NULL,  
  `employee_of_company` INT NULL DEFAULT NULL,  
  `client_employee` VARCHAR(45) NULL DEFAULT NULL,  
  PRIMARY KEY (`contractID`),  
  INDEX `client_clientID_idx` (`client_clientID` ASC) VISIBLE,  
  INDEX `purchase_purchaseID_idx` (`purchase_purchaseID` ASC) VISIBLE,  
  INDEX `company_companyID_idx` (`company_companyID` ASC) VISIBLE,  
  INDEX `employee_of_company_idx` (`employee_of_company` ASC) VISIBLE,  
  CONSTRAINT `client_clientID`  
    FOREIGN KEY (`client_clientID`)  
      REFERENCES `qoc353_4`.`clients` (`clientID`)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE,  
  CONSTRAINT `company_companyID`  
    FOREIGN KEY (`company_companyID`)  
      REFERENCES `qoc353_4`.`company` (`cID`)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE,  
  CONSTRAINT `employee_of_company`  
    FOREIGN KEY (`employee_of_company`)  
      REFERENCES `qoc353_4`.`employee` (`employeeID`)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE,  
  CONSTRAINT `purchase_purchaseID`  
    FOREIGN KEY (`purchase_purchaseID`)  
      REFERENCES `qoc353_4`.`purchase` (`purchaseID`)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE)  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

-- -----  
-- Table `qoc353\_4`.`headoffice`  
-- -----



```

-----
CREATE TABLE IF NOT EXISTS `qoc353_4`.`headoffice` (
  `headFID` INT NOT NULL,
  `companyID` INT NOT NULL,
  `email` VARCHAR(45) NULL DEFAULT NULL,
  `website` VARCHAR(45) NULL DEFAULT NULL,
  PRIMARY KEY (`headFID`, `companyID`),
  INDEX `head_companyID_idx` (`companyID` ASC) VISIBLE,
  CONSTRAINT `head_companyID`
    FOREIGN KEY (`companyID`)
      REFERENCES `qoc353_4`.`company` (`cID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE,
  CONSTRAINT `headFID`
    FOREIGN KEY (`headFID`)
      REFERENCES `qoc353_4`.`facility` (`fID`)
      ON UPDATE RESTRICT)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-----
-- Table `qoc353_4`.`manufacturingfacility`
-----

```

```

CREATE TABLE IF NOT EXISTS `qoc353_4`.`manufacturingfacility` (
  `ManufacturingFID` INT NOT NULL,
  `companyID` INT NOT NULL,
  `productionCap` INT NULL DEFAULT NULL,
  PRIMARY KEY (`ManufacturingFID`, `companyID`),
  INDEX `ManufacturingFacility_companyID_idx` (`companyID` ASC) VISIBLE,
  CONSTRAINT `ManufacturingFacility_companyID`
    FOREIGN KEY (`companyID`)
      REFERENCES `qoc353_4`.`company` (`cID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE,
  CONSTRAINT `ManufacturingFacility_ManufacturingFID`
    FOREIGN KEY (`ManufacturingFID`)
      REFERENCES `qoc353_4`.`facility` (`fID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

-- Table `qoc353\_4`.`product`

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`product` (  
  `productID` INT NOT NULL,  
  `product_company` INT NOT NULL,  
  `productDescription` VARCHAR(45) NULL DEFAULT NULL,  
  `productVolume` VARCHAR(45) NULL DEFAULT NULL,  
  `productPrice` VARCHAR(45) NULL DEFAULT NULL,  
  `UPC` VARCHAR(45) NULL DEFAULT NULL,  
  `productWeight` VARCHAR(45) NULL DEFAULT NULL,  
  `productName` VARCHAR(45) NULL DEFAULT NULL,  
  `productStatus` VARCHAR(45) NULL DEFAULT NULL,  
  PRIMARY KEY (`productID`, `product_company`),  
  INDEX `product_company_idx` (`product_company` ASC) VISIBLE,  
  CONSTRAINT `product_company`  
    FOREIGN KEY (`product_company`)  
      REFERENCES `qoc353_4`.`company` (`cID`)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE)  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

-- Table `qoc353\_4`.`purchase\_item`

```
CREATE TABLE IF NOT EXISTS `qoc353_4`.`purchase_item` (  
  `purchase_item_productID` INT NOT NULL,  
  `purchase_item_companyID` INT NOT NULL,  
  `purchase_item_purchaseID` INT NOT NULL,  
  `quantity` INT NULL DEFAULT NULL,  
  `unitPrice` INT NULL DEFAULT NULL,  
  PRIMARY KEY (`purchase_item_productID`, `purchase_item_companyID`,  
  `purchase_item_purchaseID`),  
  INDEX `purchase_item_purchaseID_idx` (`purchase_item_purchaseID` ASC) VISIBLE,  
  INDEX `purchase_item_companyID_idx` (`purchase_item_companyID` ASC) VISIBLE,  
  CONSTRAINT `purchase_item_companyID`  
    FOREIGN KEY (`purchase_item_companyID`)  
      REFERENCES `qoc353_4`.`company` (`cID`)  
    ON DELETE CASCADE
```

```

    ON UPDATE CASCADE,
CONSTRAINT `purchase_item_productID`
  FOREIGN KEY (`purchase_item_productID`)
    REFERENCES `qoc353_4`.`product` (`productID`)
  ON DELETE CASCADE
  ON UPDATE CASCADE,
CONSTRAINT `purchase_item_purchaseID`
  FOREIGN KEY (`purchase_item_purchaseID`)
    REFERENCES `qoc353_4`.`purchase` (`purchaseID`)
  ON DELETE CASCADE
  ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-- -----
-- Table `qoc353_4`.`researchfacility`
-- -----

```

```

CREATE TABLE IF NOT EXISTS `qoc353_4`.`researchfacility` (
  `ResearchFID` INT NOT NULL,
  `Research_companyID` INT NOT NULL,
  PRIMARY KEY (`ResearchFID`, `Research_companyID`),
  INDEX `researchFacility_companyID_idx` (`Research_companyID` ASC) VISIBLE,
  CONSTRAINT `researchFacility_companyID`
    FOREIGN KEY (`Research_companyID`)
      REFERENCES `qoc353_4`.`company` (`cID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
  CONSTRAINT `researchFacility_ResearchFID`
    FOREIGN KEY (`ResearchFID`)
      REFERENCES `qoc353_4`.`facility` (`fID`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-- -----
-- Table `qoc353_4`.`warehousefacility`
-- -----

```

```

CREATE TABLE IF NOT EXISTS `qoc353_4`.`warehousefacility` (
  `warehouseFID` INT NOT NULL,
  `companyID` INT NOT NULL,
  `maxcap` INT NULL DEFAULT NULL,

```

```

PRIMARY KEY (`warehouseFID`, `companyID`),
INDEX `WarehouseFacility_companyID_idx` (`companyID` ASC) VISIBLE,
CONSTRAINT `WarehouseFacility_companyID`
  FOREIGN KEY (`companyID`)
    REFERENCES `qoc353_4`.`company` (`cID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
CONSTRAINT `warehouseFID`
  FOREIGN KEY (`warehouseFID`)
    REFERENCES `qoc353_4`.`facility` (`fID`)
    ON DELETE CASCADE
    ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

```

-----
-- Table `qoc353_4`.`worksfor`
-----
CREATE TABLE IF NOT EXISTS `qoc353_4`.`worksfor` (
  `empID` INT NOT NULL,
  `company` INT NOT NULL,
  `fID` INT NULL DEFAULT NULL,
  `task` VARCHAR(45) NULL DEFAULT NULL,
  `endDate` DATE NULL DEFAULT NULL,
  `startDate` DATE NOT NULL,
  PRIMARY KEY (`empID`, `company`, `startDate`),
  INDEX `worksFor_company_idx` (`company` ASC) VISIBLE,
  INDEX `worksFor_fID_idx` (`fID` ASC) VISIBLE,
  CONSTRAINT `worksFor_company`
    FOREIGN KEY (`company`)
      REFERENCES `qoc353_4`.`company` (`cID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE,
  CONSTRAINT `worksFor_empID`
    FOREIGN KEY (`empID`)
      REFERENCES `qoc353_4`.`employee` (`employeeID`)
      ON DELETE CASCADE
      ON UPDATE CASCADE,
  CONSTRAINT `worksFor_fID`
    FOREIGN KEY (`fID`)
      REFERENCES `qoc353_4`.`facility` (`fID`)
      ON DELETE CASCADE

```

```
ON UPDATE CASCADE)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

```
SET SQL_MODE=@OLD_SQL_MODE;
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

## GUI SCREENSHOTS

### List of products

[Add a product](#)

productID	product company	product Description	product Volume	product Price	UPC	product Weight	product Name	product Status
1	1	Vaccine of Pfizer	100000	100	PFZ123	2	Pfizer_vaccine	Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
2	1	Bandages of Pfizer	50000	15	PFZ101	3	Pfizer_bandages	Not Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
3	2	Vaccine of Moderna	200000	110	MD123	4	Moderna_vaccine	Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
4	2	Bandages of Moderna	55555	10	MD202	3	Moderna_bandages	Not Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
5	3	Vaccine of GSK	300000	200	GSK123	2	GSK_vaccine	Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
6	3	Bandages of GSK	15555	20	GSK222	1	GSK_bandages	Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
7	4	Vaccine of Pharma	5000	10	Pharma123	3	Pharma_vaccine	Not Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
8	4	Bandages of Pharma	10000	30	Pharma67	3	Pharma_bandages	Not Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>
9	5	Vaccine Roche	200000	50	Roche123	2	RocheVaccine	Available <a href="#">Display</a> <a href="#">Edit</a> <a href="#">Delete</a>

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# Add product

product ID

product Research ID

product Description>

product Volume

product Price

UPC

product weight

Add

[Back to products](#)

product ID : 1

product\_company: 1

productDescription: Vaccine of Pfizer

productVolume: 100000

productPrice: 100

UPC: PFZ123

productWeight: 2

productName: Pfizer\_vaccine

productStatus: Available

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