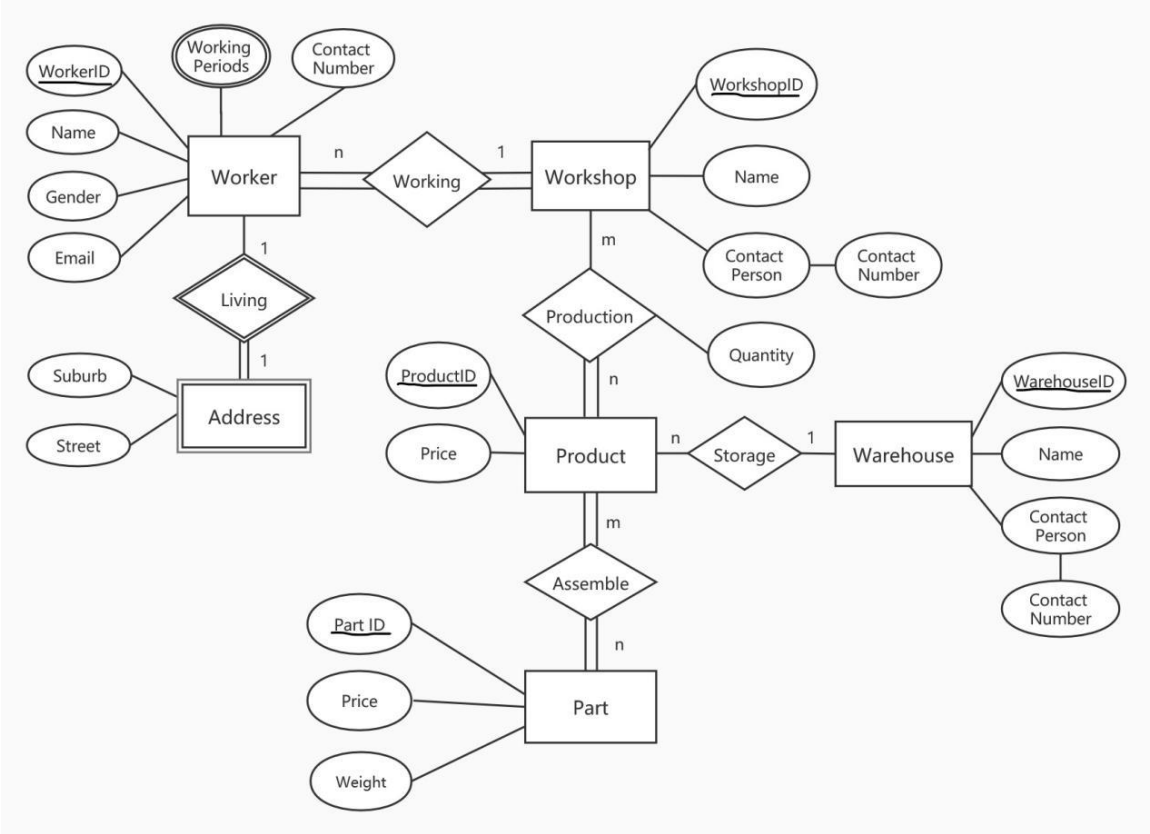
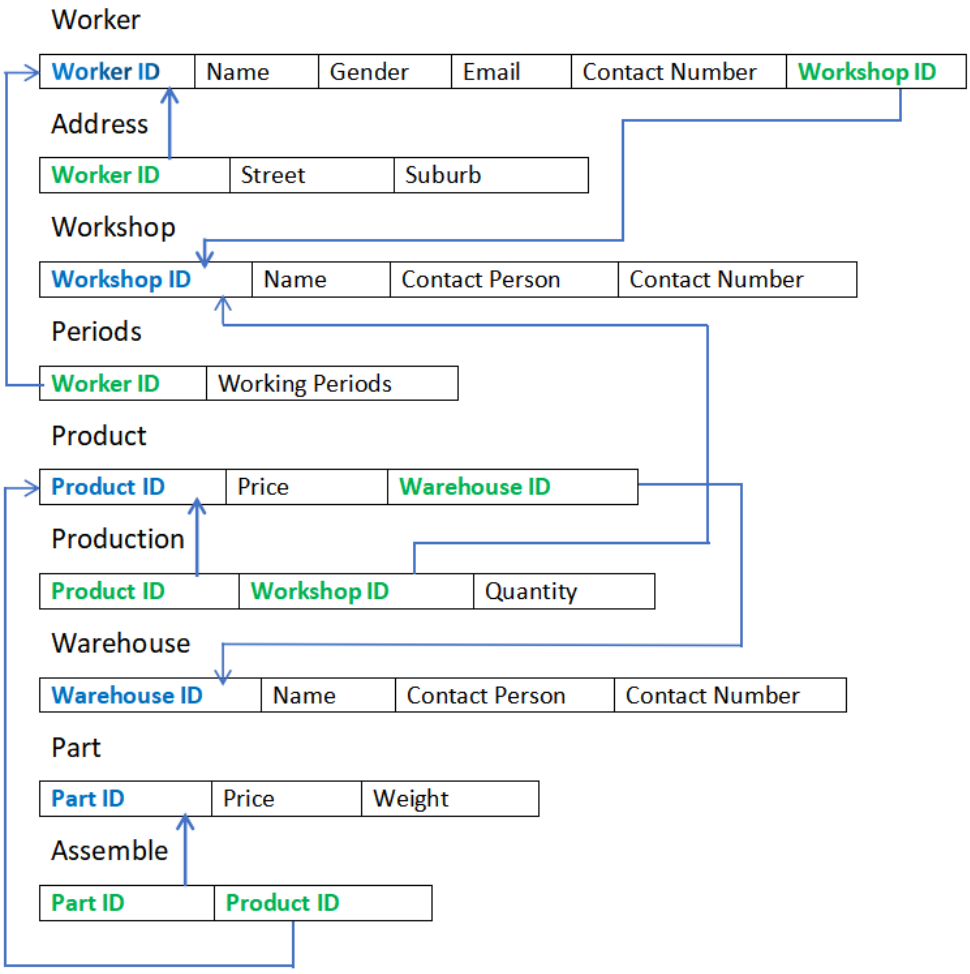
Question 1


Working Periods
Contact Number
WorkerID
Name
Gender
Email
Worker
n
Working
1
Workshop
WorkshopID
Name
Contact Person
Contact Number
m
1
Living
1
Suburb
Street
Address
Production
Quantity
ProductID
Price
Product
n
Storage
1
Warehouse
WarehouseID
Name
Contact Person
Contact Number
m
Assemble
n
Part ID
Price
Weight
Part

Question 2


Worker
Worker ID
Name
Gender
Email
Contact Number
Workshop ID
Address
Worker ID
Street
Suburb
Workshop
Workshop ID
Name
Contact Person
Contact Number
Periods
Worker ID
Working Periods
Product
Product ID
Price
Warehouse ID
Production
Product ID
Workshop ID
Quantity
Warehouse
Warehouse ID
Name
Contact Person
Contact Number
Part
Part ID
Price
Weight
Assemble
Part ID
Product ID

Question 3

1)

$A \leftarrow \sigma_{(dName=\text{'Sydney City Toyota' AND location='Waterloo'})} CarDealership$

$B \leftarrow \pi_{\{pName\}}(A \bowtie SalesPerson \bowtie Sale \bowtie Customer)$

2)

$A \leftarrow \pi_{\{sName,brand\}}(Car \bowtie Sale \bowtie SalesPerson)$

$B \leftarrow A \div (\pi_{\{brand\}} Car)$

3)

$A \leftarrow \pi_{\{dName\}}(CarDealership \bowtie Sale \bowtie (\sigma_{(brand=\text{'Audi'})} Car)$

$B \leftarrow \pi_{\{dName\}}(CarDealership \bowtie Sale \bowtie (\sigma_{(brand=\text{'Mazda'})} Car)$

$C \leftarrow \mathrm{A} - \mathrm{B}$

4)

$A \leftarrow \pi_{\{pName\}}(Customer \bowtie Sale \bowtie (\sigma_{(condition=\text{'brand-new'})} Car)$

$B \leftarrow \pi_{\{pName\}}(Customer \bowtie Sale \bowtie (\sigma_{(condition=\text{'used'})} Car)$

$C \leftarrow (\mathrm{A} - \mathrm{B}) \cup (B - A)$