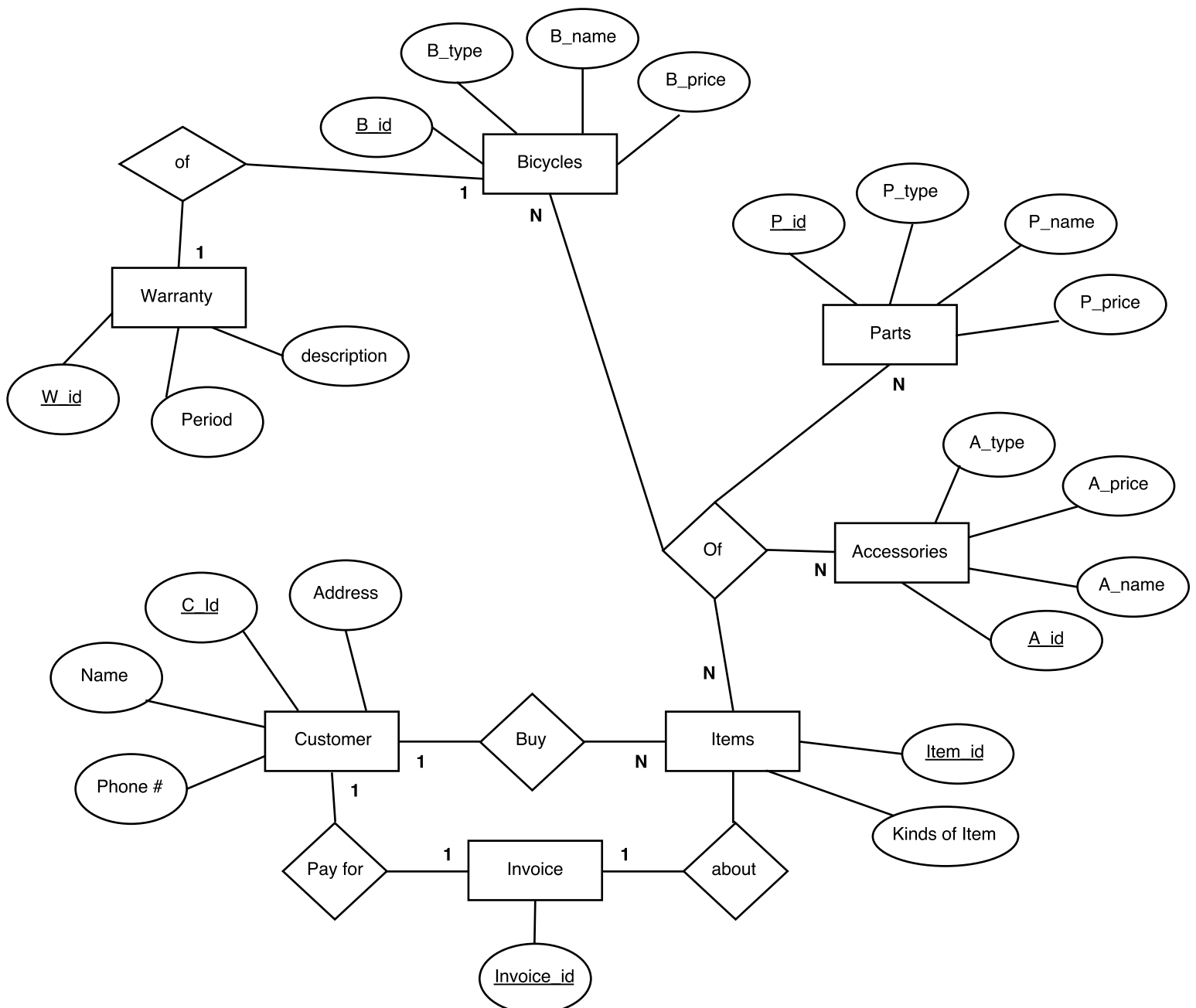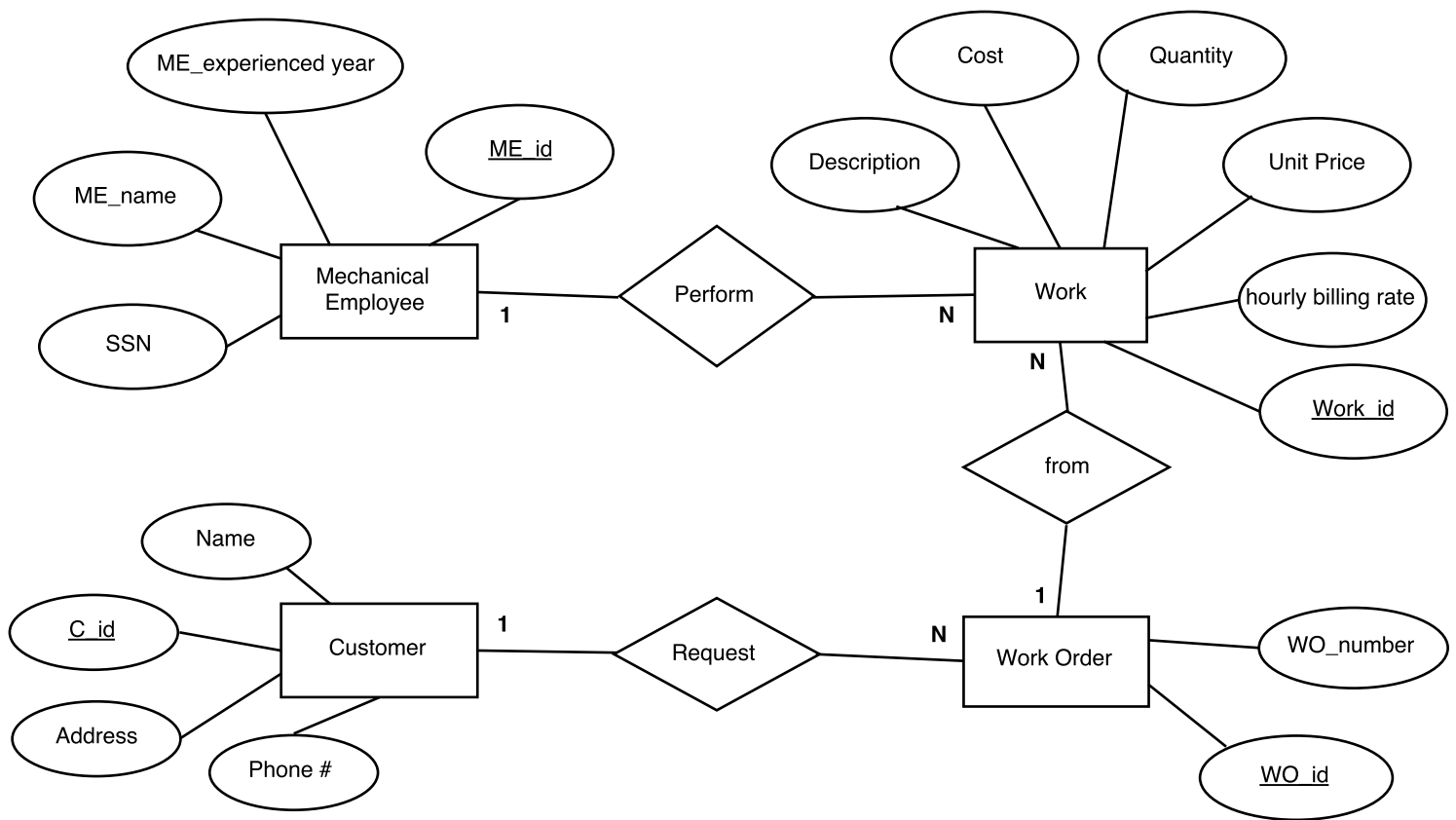# Part 1 : Users and Questions

1. Customer : How much do I need to pay?
    What is the specific price for my billing(total price)?
    How does the bicycle warranty work?
2. Mechanical Employee : What is the work which I need to do today?
    What is the work order number?
    When is the due date for work?
3. Sales : What is the work which I need to do today?
    How many do I get work order from customer?
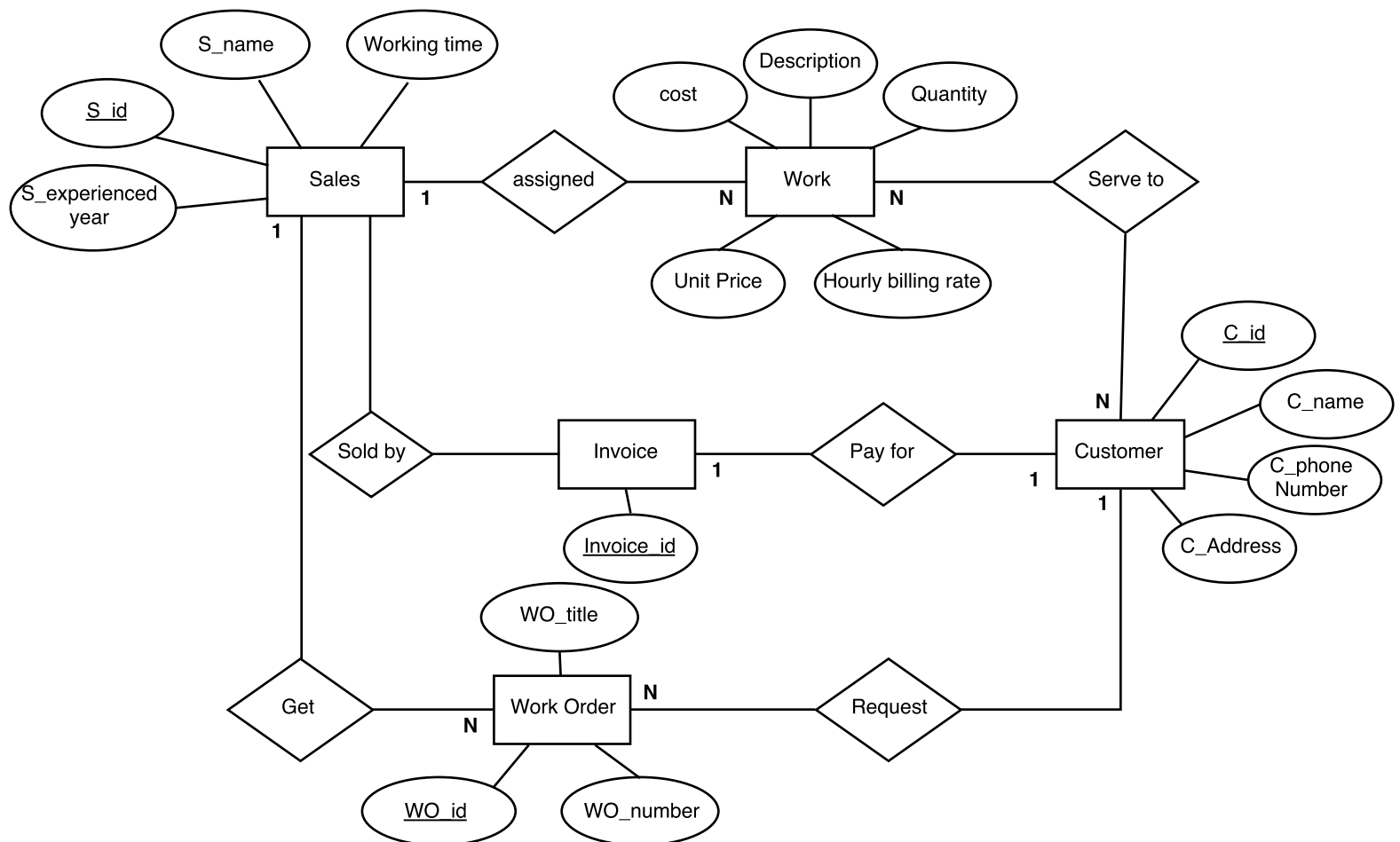   How does the bicycle warranty work?

Part 2 : User Schema

1. Customer

2. Mechanical Employess

3. Sales

Part 3 : Logical Schema

Buy — N — Items — N — About

kinds of Item   Item_id

B_id

Of — N — Bicycle — N — including — N — Accessories

B_name

B_price   B_type

A_id   A_type

A_name   A_price

N

Parts

P_id

P_name   P_price   P_type

1

Warranty

W_description

W_id   Period
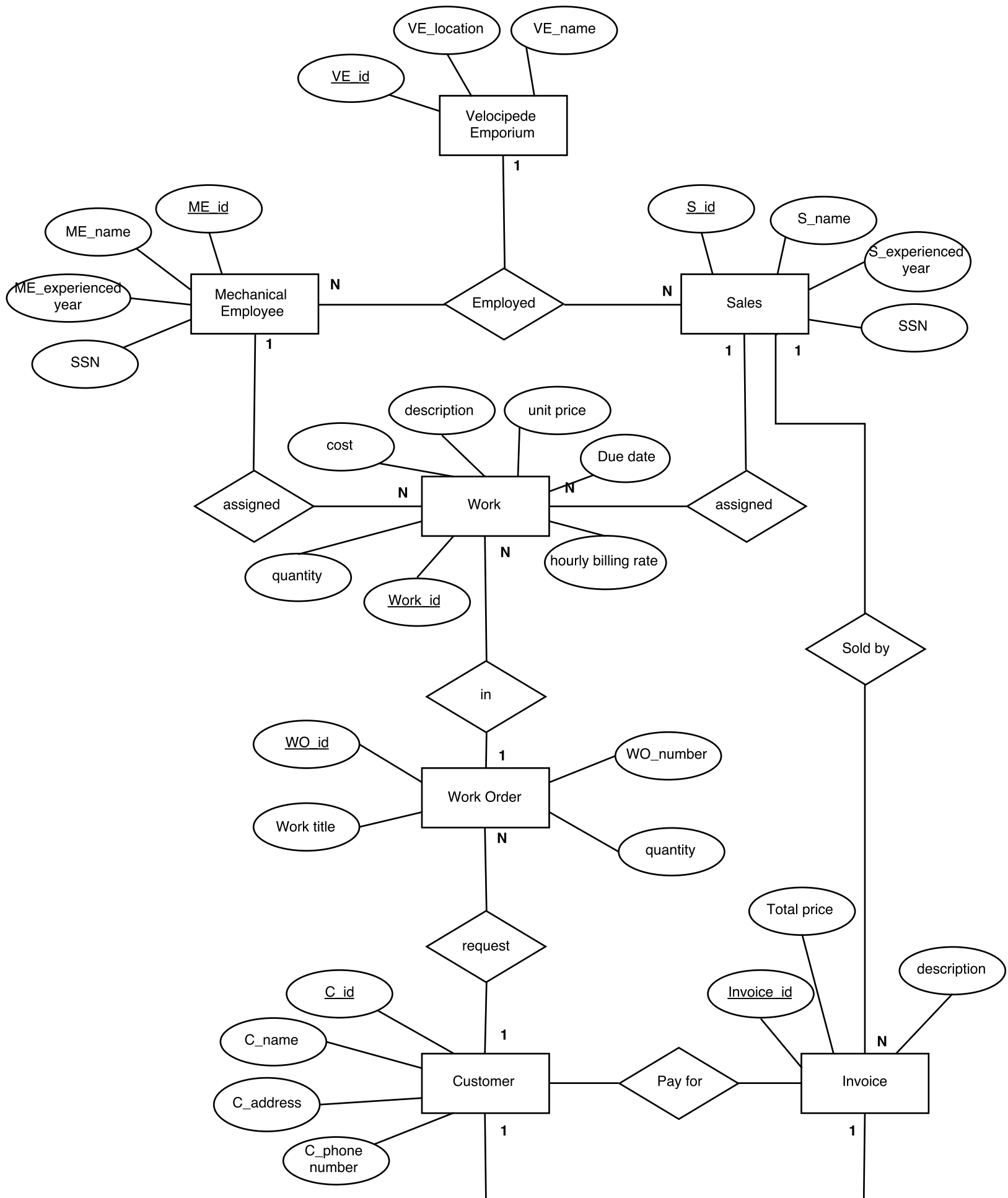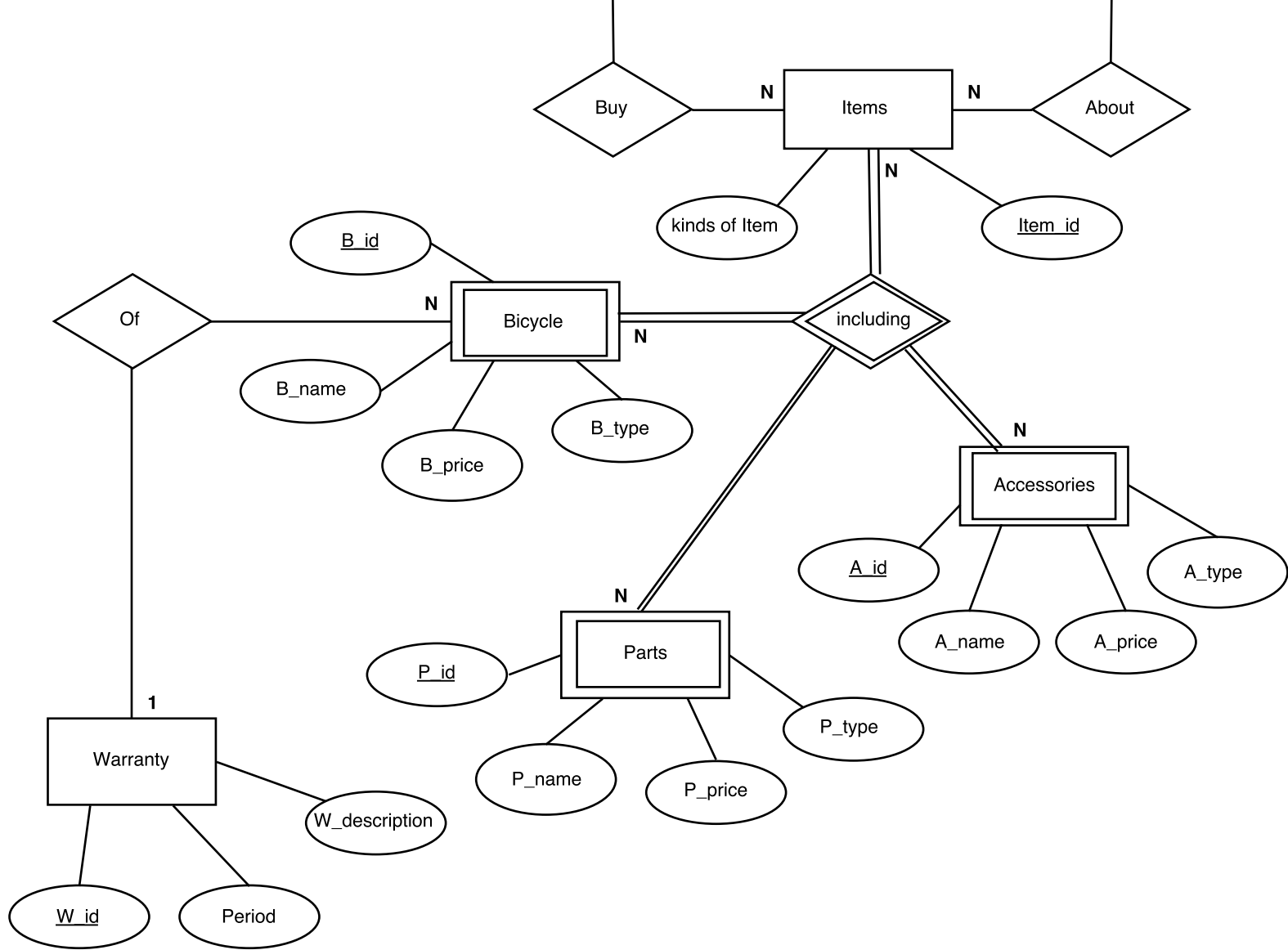
Part 4 : Relational Model

<u>primary key</u>, *Foreign Key*

- Velocipede Emporium (<u>id</u>, location, name)
- Mechanical Employee (<u>id</u>, SSN, name, experienced year)
- Sales (<u>id</u>, SSN, name, experienced year)
- Work (<u>id</u>, cost, quantity, description, unit price, due date, hourly billing rate, *WO_number*)
- Invoice (<u>id</u>, total price, description)
- Work Order (<u>id</u>, Work title, number, quantity)
- Customer (<u>id</u>, name, address, phone number)
- Items (<u>id</u>, kinds of item)
- Bicycle (<u>id</u>, name, type, price)
- Parts (<u>id</u>, name, type, price)
- Accessories (<u>id</u>, name, type, price)
- Employed (<u>VE_id</u>, <u>ME_id</u>)
- Employed (<u>S_id</u>, <u>VE_id</u>)
- assigned (<u>Work_id</u>, <u>Sales_id</u>)
- assigned (<u>Work_id</u>, <u>ME_id</u>)
- Sold by (<u>Sales_id</u>, <u>Invoice_id</u>)
- in (<u>Work_id</u>, <u>WO_id</u>, *quantity*)
- Request (<u>WO_id</u>, <u>C_id</u>)
- pay for (<u>C_id</u>, <u>Invoice_id</u>, total price)
- including(<u>A_id</u>, <u>P_id</u>, <u>B_id</u>, <u>Item_id</u>)
-

Part 5 : Example Data