

Dalhousie University

CSCI2141-Intro to Database Systems

Assignment 1

Yansong Li

B00755354

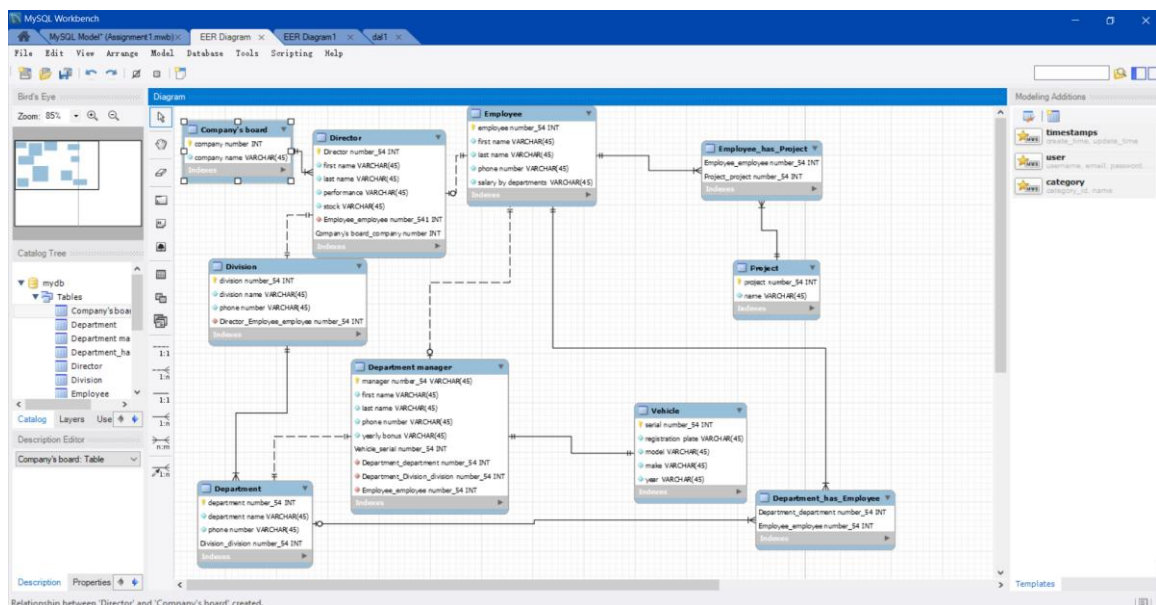
2019-Feb-7

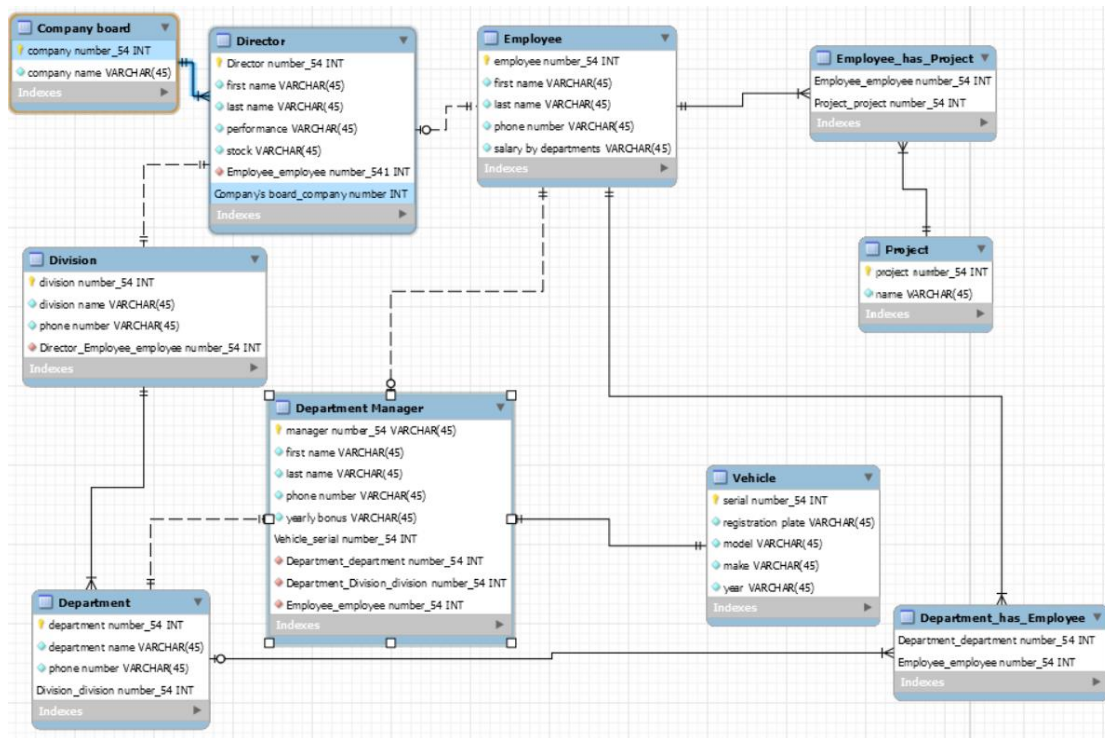
1. Employee Problem

1) Assumptions:

- a) An employee can be employed by many departments or not employed by any department. Meanwhile, A department must have at least one employee or many employees.
- b) If an employee is a department manager or director, then he or she has a unique manager number or director number. An employee cannot be a manager and a director at the same time.
- c) A project can be assigned to many employees, and an employee can participate many projects.
- d) A vehicle only can be allocated to one manager; and a manager only can have one vehicle.
- e) The company's board rate the performance of every director.
Company's board can rate many directors.

2) Overview of the EER diagram for Employee Problem.





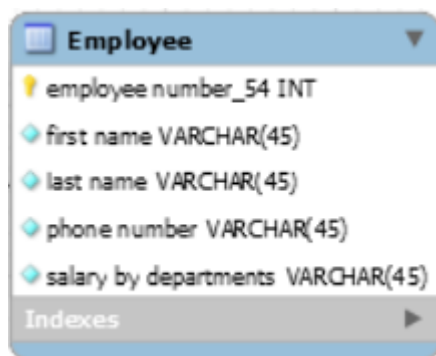
3) pictures for every table and its details

a) Employee:

Table

	employee number_54	first name	last name	phone number	salary by departments
*	NULL	NULL	NULL	NULL	NULL

Details



b) Department:

Table

	department number_54	department name	phone number	Division_division number_54
*	NULL	NULL	NULL	NULL

Details

Department

- department number_54 INT
- department name VARCHAR(45)
- phone number VARCHAR(45)
- Division_division number_54 INT

Indexes ▶

c) Division

Table

	division number_54	division name	phone number	Director_Employee_employee number_54
*	NULL	NULL	NULL	NULL

Details

Division

- division number_54 INT
- division name VARCHAR(45)
- phone number VARCHAR(45)
- Director_Employee_employee number_54 INT

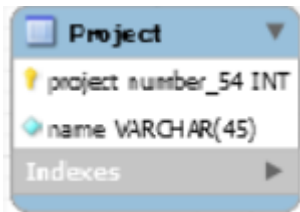
Indexes ▶

d) Project

Table

	project number_54	name
*	NULL	NULL

Details

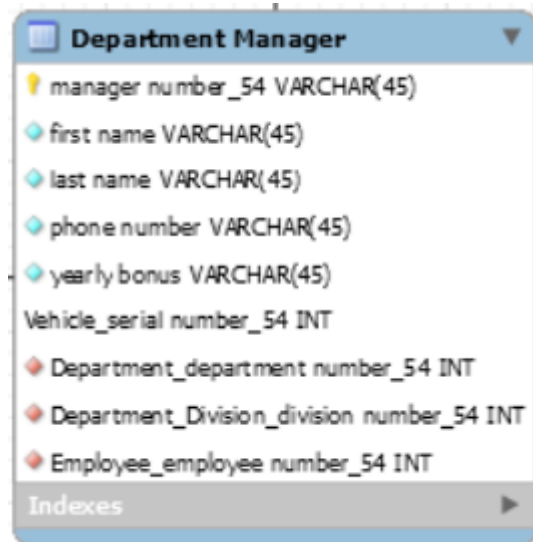


e) Department Manager

Table

	manager number_54	first name	last name	phone number	yearly bonus	Vehicle_serial number_54	Department_department number_54	Department_Division_division number_54	Employee_employee number_54
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Details



f) Director

Table

	Director number_54	first name	last name	performance	stock	Employee_employee number_541
*	NULL	NULL	NULL	NULL	NULL	NULL

Details

Director	
Director number_54	INT
first name	VARCHAR(45)
last name	VARCHAR(45)
performance	VARCHAR(45)
stock	VARCHAR(45)
Employee_employee number_54	1 INT
Company's board_company number	INT
Indexes	

g) vehicle

Table

	serial number_54	registration plate	model	make	year
*	NULL	NULL	NULL	NULL	NULL

Details

Vehicle	
serial number_54	INT
registration plate	VARCHAR(45)
model	VARCHAR(45)
make	VARCHAR(45)
year	VARCHAR(45)
Indexes	

h) Company's Board

Table

	company number_54	company name
»*	NULL	NULL

Details

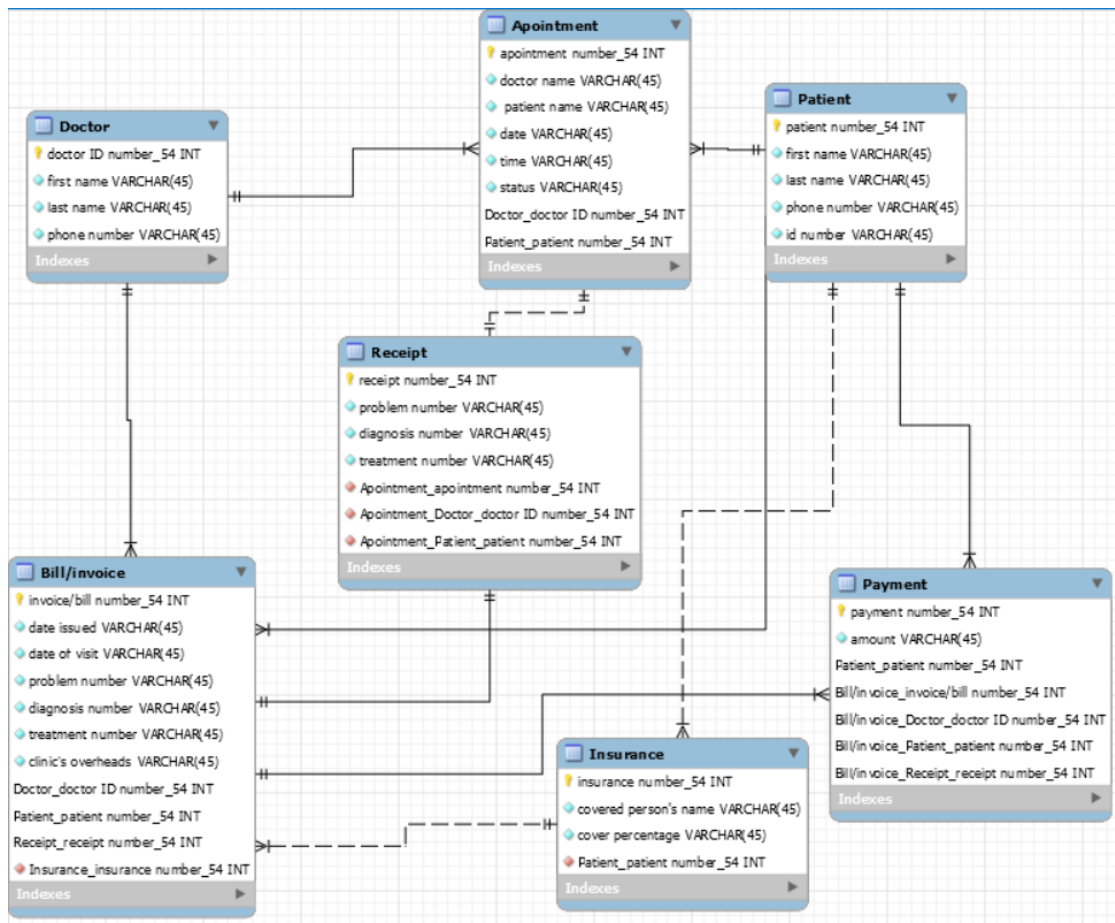
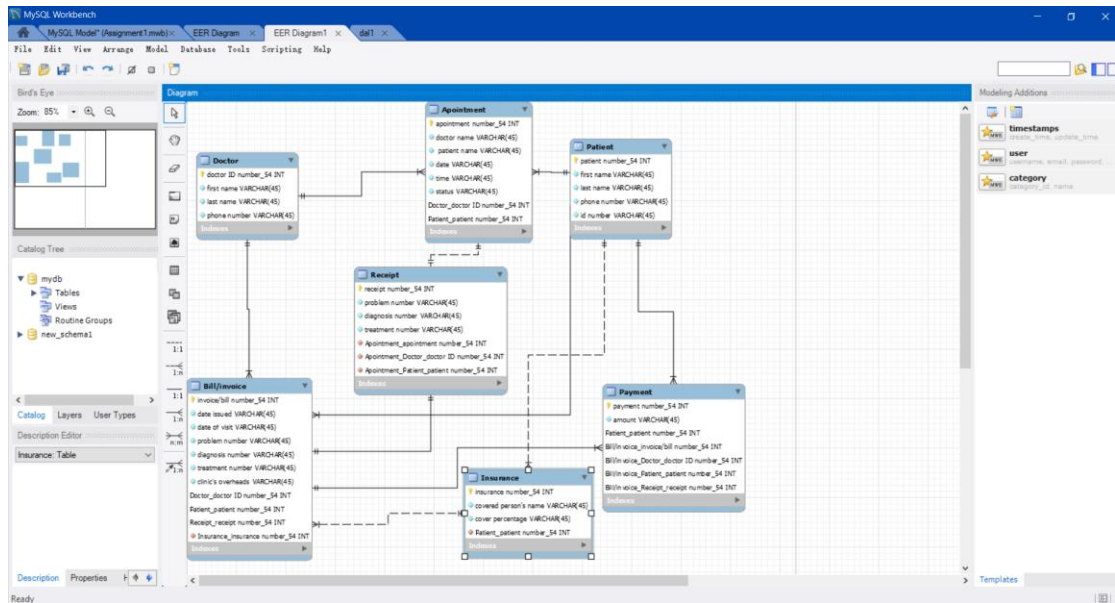


2. Patient Problem

1) Assumptions

- a) If the patient keeps the appointment, then there is a receipt which includes the problem number, diagnosis number, and treatment number.
- b) If the patient has insurances, then the insurances will cover part of the bill. Hence, the bill has been sent to the patient is after covered.
- c) The insurance contains a cover percentage, which calculated by the problem number, diagnosis number, and treatment number.
- d) A bill amount is based on the receipt and the insurance cover percentage.
- e) Payments are made by a bill, a patient can make many payments, and a bill can be payed by many payments.

2) Overview of the EER diagram for Patient Problem.



3) Pictures for every table and its details

a) Patient

Table

	patient number_54	first name	last name	phone number	id number
*	NULL	NULL	NULL	NULL	NULL

Details

Patient	
patient number_54	INT
first name	VARCHAR(45)
last name	VARCHAR(45)
phone number	VARCHAR(45)
id number	VARCHAR(45)
Indexes	

b) Doctor

Table

	doctor ID number_54	first name	last name	phone number
*	NULL	NULL	NULL	NULL

Details

Doctor	
doctor ID number_54	INT
first name	VARCHAR(45)
last name	VARCHAR(45)
phone number	VARCHAR(45)
Indexes	

c) Appointment

Table

	apointment number_54	doctor name	patient name	date	time	status	Doctor_doctor ID number_54	Patient_patient number_54
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Details

Appointment

appointment number_54

INT

doctor name

VARCHAR(45)

patient name

VARCHAR(45)

date

VARCHAR(45)

time

VARCHAR(45)

status

VARCHAR(45)

Doctor_doctor ID number_54

INT

Patient_patient number_54

INT

Indexes

d) Receipt

Table

	receipt number_54	problem number	diagnosis number	treatment number	Appointment_apointment number_54	Appointment_Doctor_doctor ID number_54	Appointment_Patient_patient number_54
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Details

Receipt

receipt number_54

INT

problem number

VARCHAR(45)

diagnosis number

VARCHAR(45)

treatment number

VARCHAR(45)

Appointment_apointment number_54

INT

Appointment_Doctor_doctor ID number_54

INT

Appointment_Patient_patient number_54

INT

Indexes

e) Insurance

Table

	insurance number_54	covered person's name	cover percentage	Patient_patient number_54
*	NULL	NULL	NULL	NULL

Details

Insurance	
insurance number_54	INT
covered person's name	VARCHAR(45)
cover percentage	VARCHAR(45)
Patient_patient number_54	INT
Indexes	

f) Payment

Table

	payment number_54	amount	Patient_patient number_54	Bill/invoice_invoice/bill number_54	Bill/invoice_Doctor_doctor ID number_54	Bill/invoice_Patient_patient number_54	Bill/invoice_Receipt_receipt number_54
*	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX

Details

Payment	
payment number_54	INT
amount	VARCHAR(45)
Patient_patient number_54	INT
Bill/invoice_invoice/bill number_54	INT
Bill/invoice_Doctor_doctor ID number_54	INT
Bill/invoice_Patient_patient number_54	INT
Bill/invoice_Receipt_receipt number_54	INT
Indexes	

g) Bill

Table

	bill number_54	date issued	date of visit	problem number	diagnosis number	treatment number	clinic's overheads	Doctor_doctor ID number_54	Patient_patient number_54	Receipt_receipt number_54
*	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX

Detail

Bill/invoice	
invoice/bill number_54	INT
date issued	VARCHAR(45)
date of visit	VARCHAR(45)
problem number	VARCHAR(45)
diagnosis number	VARCHAR(45)
treatment number	VARCHAR(45)
clinic's overheads	VARCHAR(45)
Doctor_doctor ID number_54	INT
Patient_patient number_54	INT
Receipt_receipt number_54	INT
Insurance_insurance number_54	INT
Indexes	