Resort Management System

Lab Group : ***6***
Project Group: ***6***

Member Details:-

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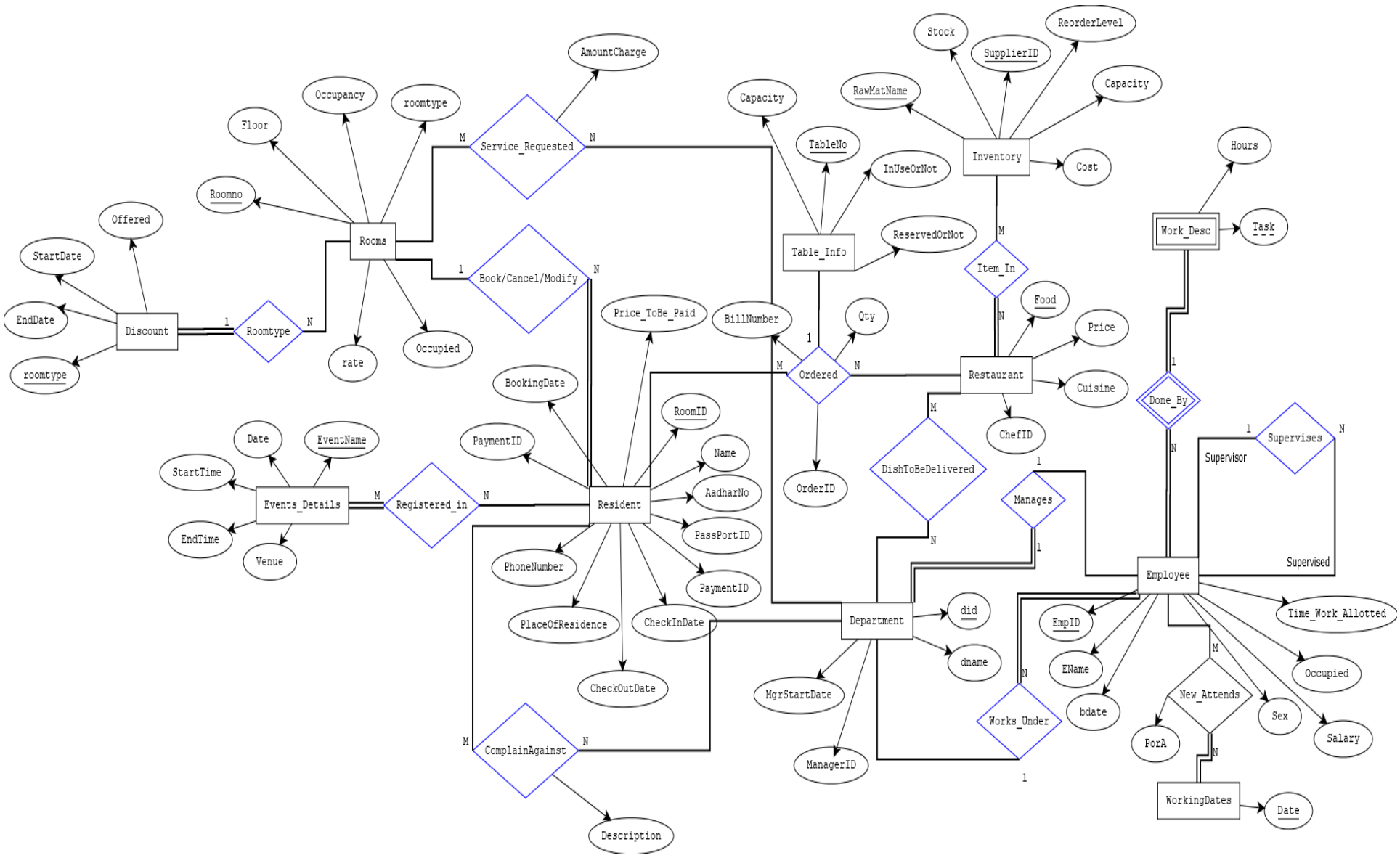
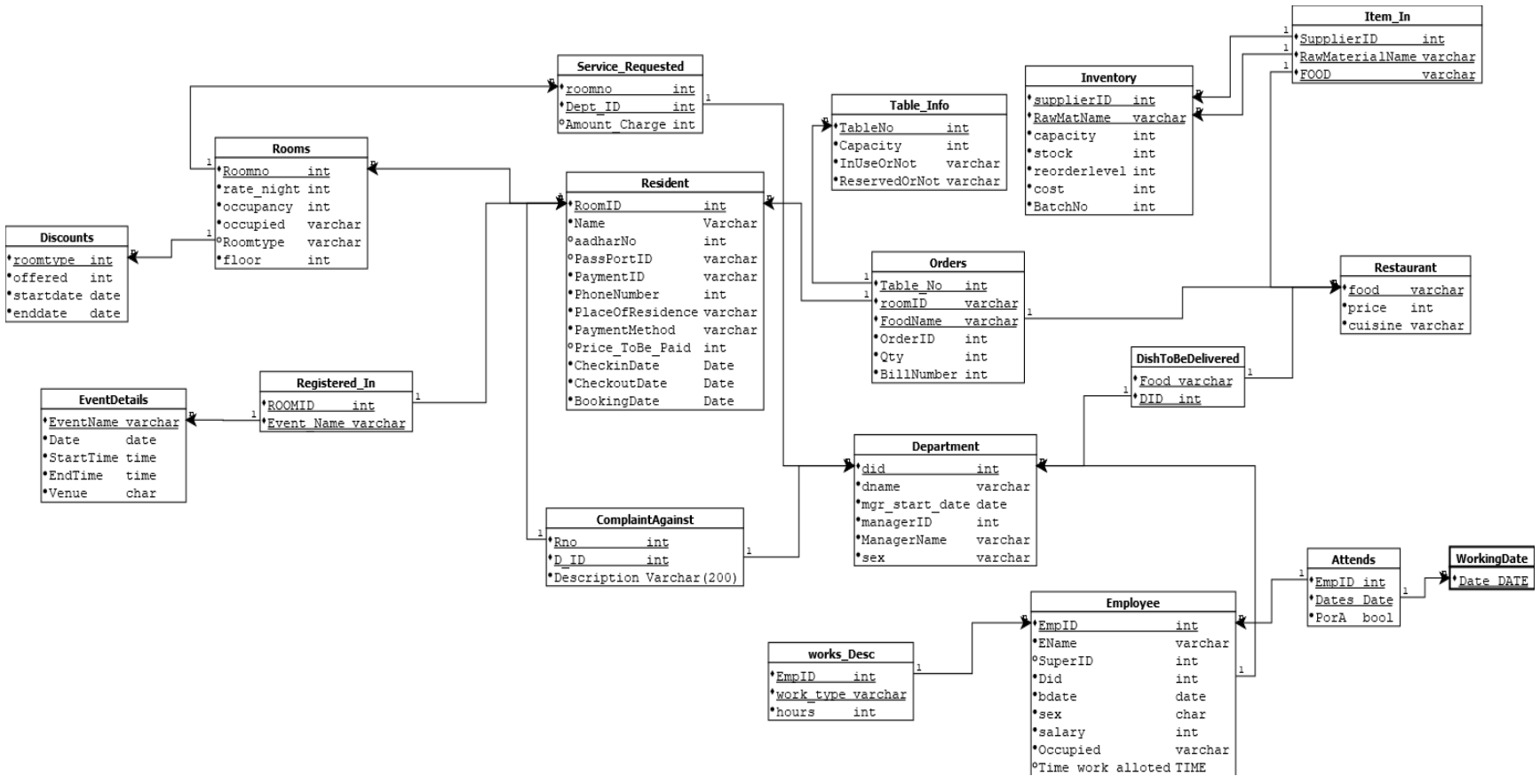
1. ER Diagram



1. Relational Schema



2. Minimal FD Set:-

1. Resident: RoomID → {Name, AadhaarNo, PassportID, PaymentID, PhoneNumber, PlaceOfResidence, PaymentMethod, Price_ToBe_Paid,CheckinDate, CheckoutDate, BookingDate}
2. Room: Roomno → {rate_night, occupancy, occupied, roomtype, floor}
3. Discount: Roomtype → {startdate, enddate, offer}
4. EventDetails: EventName → {Date, StartTime, EndTime, Venue}
5. Service_Requested: {roomno, Dept_ID} → {Amount_Charged}
6. Table_Info: TableNo → {Capacity, InUseOrNot, ReservedOrNot}
7. Orders: {Table_No, roomID, FoodName} → {OrderID, Qty, BillNumber}
8. Inventory: {SupplierID, RawMatName} → {capacity, stock, reorderlevel, cost, BatchNo}
9. Restaurant: Food → {price, cuisine}
10. Department: did → {dname, managerID, mgr_start_date, ManagerName, sex}
11. Employee: EmpID → {EName, SuperID, Did, bdate, sex, salary, Occupied, Time_work_alloted}
12. Works_Desc: {EmpID, work_type} → hours
13. Attends: {EmpID, Dates} → {PorA}
14. ComplaintAgainst: {Rno, D_ID} → Description

4. Proof of Boyce-Codd Normal Form (BCNF) :-

Hence, it can be seen that in the above minimal FD set, for every A → B that holds on each relation R, A is its super-key.

That is, RoomID, Roomno, Roomtype, EventName, {Roomno, Dept_ID}, TableNo, {Table_No, roomID, Foodname}, {SupplierID, RawMatName}, Food, did, EmpID, {EmpID, work_type}, {EmpID, Dates}, {Rno, D_ID} are all superkeys (In our schema, primary keys) as shown above.

Hence the FDs are in Boyce-Codd Normal Form (BCNF).