

Relational model

Represent all entities (strong, weak) in tabular fashion. Represent relationships in a tabular fashion. There are different ways of representing as tables based on the cardinality. Represent attributes as columns in the tables or as tables based on the requirement. Different types of attributes (composite, multivalued and derived).

Definitions:

Composite attributes: can be divided into smaller sub parts which represent more basic attributes with independent meaning.

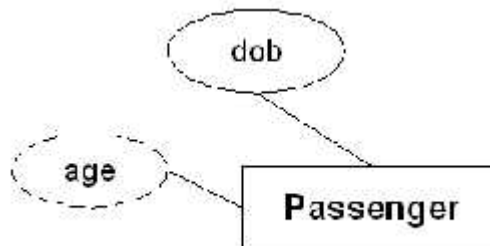


Multivalued attributes: for ex the attribute in the Bus entity Bustype can have different types of buses according that the Bustype attribute contains the values as Garuda, Luxury, Express, and Ordinary. This type of attribute is called multivalued attribute and may have lower and upper bounds to constrain the number of values allowed for each individual entity.



Derived attributes:

In some cases, two or more attribute values are related. With the help of one attribute we get the value of another attribute. Age and DOB attributes. With the DOB we get the age of the person to the current date.



Entity sets to tables:

Relational shema for Bus relation:

Bus(Busno:numeric, serviceno:numeric, source:varchar(10), destination:varchar(10),
deptime:time, rettime:time, bustype:varchar(10), noofseats:int)

Relational shema for Ticket relation:

Ticket(Ticketno:numeric, joudate:date, joutime:time, source:varchar(10),
destination:varchar(10), seatno:int(4), amount:decimal(10,3), catcard:char(3))

Relational shema for Passenger relation:

Passenger(Pnrno:numeric, pname:varchar(15), age:int(4), sex:char(3), ticketno:numeric, address:varchar(50), phno:numeric(10), catno:varchar(10))

Relationship sets to tables:**Relational shema for reserve relation:**

Rserve(pnrno:numeric,joudate:date,noofseats:int(4),address:varchar(50),contact_no:numeric(10),status:char(3))

Relational shema for Cancels relation:

Cancels(pnrno:numeric,joudate:date,noofseats:int(4),address:varchar(50),contact_no:numeric(10),status:char(3))

TABLES:**Reserves:**

Pnrno	Joudate	Noofseats	Address	Contact_no	Status
1001	2010-8-5	10	5-4,srpt	9492506282	Yes
1001	2010-8-15	5	5-4,srpt	9492506282	Yes
1002	2010-8-5	5	6-8,hyd	9949060540	Yes
1003	2010-8-15	6	h/7,vij	9704054050	Yes
1004	2010-8-18	8	8-9,hyd	9704613151	Yes
1005	2010-8-5	9	9-11,hyd	9848354941	No
1005	2010-8-6	5	9-11,hyd	9848354941	Yes

Cancels:

Pnrno	Joudate	Noofseats	Address	Contact_no	Status
1001	2010-8-5	5	5-4,srpt	9492506282	Yes
1002	2010-8-5	2	6-8,hyd	9949060540	No
1003	2010-8-15	2	h/7,vij	9704054050	Yes
1004	2010-8-18	5	8-9,hyd	9704613151	Yes
1005	2010-8-6	4	9-11,hyd	9848354941	Yes

Bus:

Busno	serviceno	source	destination	deptime	retime	bustype	Noofseats
<u>Ap555</u>	<u>3889</u>	Srpt	Hyd	9:00:00	19:15:00	Ac	36
<u>Ap501</u>	<u>3891</u>	Srpt	Hyd	10:00:15	20:15:00	Ac	36
<u>Ap444</u>	<u>3601</u>	Hyd	Srpt	9:00:00	19:30:00	Nonac	52
<u>Ap891</u>	<u>3555</u>	Hyd	Srpt	9:30:00	20:30:00	Nonac	52
<u>Ap8830</u>	<u>3239</u>	Hyd	Vij	9:00:00	22:30:00	Metro	45

Ticket:

Ticketno	Joudate	Joutime	Source	Destination	Seatno	Amount	Catcard
1111	2010-8-5	9:00:00	Srpt	Hyd	5	96	No
2222	2010-8-5	10:00:15	Srpt	Hyd	10	88	Yes
3333	2010-8-15	9:00:00	Hyd	Srpt	15	88	Yes
4444	2010-8-18	9:30:00	Hyd	Srpt	20	96	No
5555	2010-8-6	9:00:00	Hyd	Vij	18	172	Yes

Passenger:

Pnrno	pname	age	sex	ticketno	address	phno	Catno
1001	Subbu	31	M	1111	5-4,srpt	9492506282	Cap5112
1002	Achaith	22	M	2222	6-8,hyd	9949060540	Cap6900
1003	Padma	25	F	3333	h/7,vij	9704054050	Cap5772
1004	Ravi	23	M	4444	8-9,hyd	9704613151	Cap6132
1005	Satyam	42	F	5555	9-11,hyd	9848354941	Cap6732