

(1) PLAYER(pnum, pname, team, position, team-address)

A relational schema PLAYER is designed incorrectly

Insertion test:

PLAYER	pnum	pname	team	position	team-address
	1	Joe	Bees	defence	NY, Long Rd
	2	James	Bees	defence	NY, Long Rd
	3	Bill	Bees	midfield	NY, Long Rd

Decomposition:

TEAM(team, team-address)

PRIMARY KEY = (team)

CANDIDATE KEY = (team-address)

PLAYER(pnum, pname, team, position)

PRIMARY KEY = (pnum)

FOREIGN KEY = (team) REFERENCES TEAM(team)

(2) WAREHOUSE(name, address, item, price, quantity)

A relational schema WAREHOUSE is designed incorrectly

Insertion test:

WAREHOUSE	name	address	item	price	quantity
	XYZ	Short St	bolt	1.2	500
	XYZ	Short St	nut	5.3	560
	XYZ	Short St	screw	4.7	1

Decomposition:

WAREHOUSE(name, address)

PRIMARY KEY =(name)

CANDIDATE KEY =(address)

ITEM(name, item, price, quantity)

PRIMARY KEY = (name, item)

FOREIGN KEY = (name) REFERENCES WAREHOUSE(name)

(3) FLIGHT(passenger, flightNum, seatType, departurePlace, departureTime)

A relational schema FLIGHT is designed incorrectly

Insertion test:

FLIGHT|passenger|flightNum|seatType|departurePlace|departureTime|

James	SQ232	economy	Sydney	12.45	
Harry	SQ232	business	Sydney	12.45	
Robin	SQ232	first	Sydney	12.45	

Decomposition:

FLIGHT(flightNum, departurePlace, departureTime)

PRIMARY KEY = (flightNum)

BOOKING(passenger, flightNum, seatType)

PRIMARY KEY = (passenger, flightNum)

FOREIGN KEY = (flightNum) REFERENCES FLIGHT(flightNum)

(4) ENROLMENT(studentNum, subjectCode, enrolDate, IP)

A relational schema ENROLMENT is a header of a relational table that contains information about the students enrolled in the subjects (subjectCode). A triple of attributes (studentNum, subjectCode, enrolDate) uniquely identifies each row in the relational table. An attribute IP is an IP address of a computer from where an enrolment has been done.

A relational schema ENROLMENT is designed correctly

(5) CAR(regoNum, manufacturer, model, year, colour)

A relational table CAR contains the descriptions of cars. A registration number (regoNum) uniquely identifies each car. A car is described by a manufacturer name (manufacturer), model name (model), year when manufactured (year), and colour (colour).

A relational schema ENROLMENT is designed correctly