Home work 5

s1260027 Shunsuke

join : I

Q1

(a) ΠP#(σ CITY='London'(J I SPJ))

ΠP#,J#(SPJ) ÷ ΠJ#(σ CITY='London'(J))

(b) temp = join(J)(SPJ)(J.J#=SPJ.J#)

temp1 =restrict(temp)(CITY='London')

display(project(temp1)(P#))

(c) INPUT table J I SPJ : σ CITY='London'(J I SPJ)

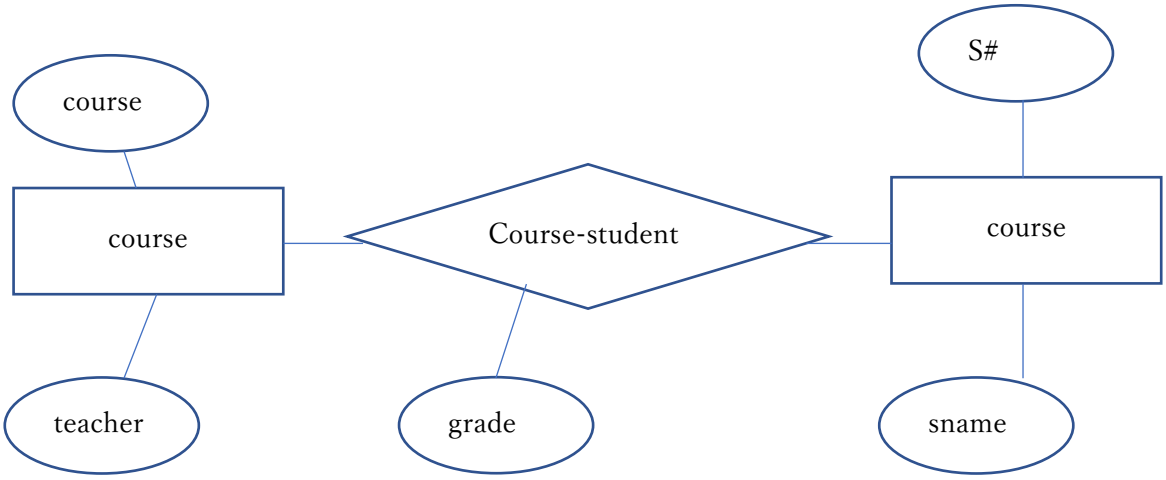
INPUT table temp as @last : ΠP#(temp)

Result : P3 P5

1.project(restrict (J) (city='London')) (jnum)

Q2

(a)



(b)

Course → teacher

S# → sname

{course,sname} → grade

COURSE	TEACHER	S#	SNAME	GRADE
Maths	Hatashi	s201000	NakaMura	A
Maths	Hatashi	s102000	Kato	A
DB	Billard	s100000	Saito	A
DB	Billard	s200000	Yamada	A
Physics	Mori	s200000	Yamada	A
OS	Billard	s100000	Saito	A
OS	Billard	s200000	Yamada	A

Q3

P#	PNAME	COLOR	WEIGHT	CITY
P1	Nut	Red	12	London
P2	Bolt	Green	17	Paris
P3	Screw	Blue	17	Rome
P4	Cam	Blue	12	Paris
P5	Cog	Red	19	London

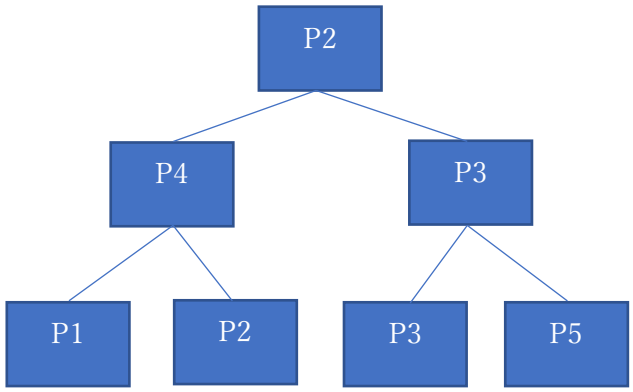
(a)

Nut		Nut	Red	12	London	P1	
Bolt		Bolt	Green	17	Paris	P2	
Screw		Screw	Blue	17	Rome	P3	
Cam		Cam	Blue	12	Paris	P4	
Cog		Cog	Red	19	London	P5	

(b)

		Nut	Red	12	London	P1	
Bolt	→	Bolt	Green	17	Paris	P2	
Screw	→	Screw	Blue	17	Rome	P3	
		Cam	Blue	12	Paris	P4	
Cog	→	Cog	Red	19	London	P5	

(c)B+ tree



(d)B tree