1.

	Given										
A	В	C	D	E	F	G	Н	Ι	J		
0	0	1									
0			1	1							
	0				1						
					0	1	↑				
			0					1	1		

	1NF											
A	В	С	D	Е	F	G	Н	Ι	J			
0	0	↑	↑	1	↑	1	↑	1	↑			
0			1	1				1	1			
	0				1	1	1					
					0	1	1					
			0					1	↑			

Key for R is $\{A, B\}$

	2NF												
Α	В	C		A	D	E	Ι	J		В	F	G	H
0	0	1		0	1	1	1	1		0	↑	1	↑
					0		1	1			0	1	↑

								31	٧F							
A	В	C		Α	D	Е		В	F		F	G	Н	D	Ι	J
0																

2.

	(Give	1	
A	В	C	D	E
0	0	1		
		0	0	1
	1		0	0

 $\{A,B\}$ is not a candidate key because it need $\{C,D\}$ to relate to E $\{A,B,D\}$ is a candidate key.

	Given (in 1NF)										
Car#	Date_	Salespe	Commi	Discount							
	sold	rson#	ssion%	_amt							
0	1	0	(1)	(1)							
	0			1							
		0	1								

It's in 1NF because FD3 use partial key as it's key.

	2NF										
Car#	Date_	Salespe	Discount	Salespe	Commi						
	sold	rson#	_amt	rson#	ssion%						
0	↑	0	↑	0	↑						
_	· ·		, , , , , , , , , , , , , , , , , , ,	_	· ·						

	3NF									
Car#	Date_	Salespe		Salespe	Commi		Date_	Discount		
	sold	rson#		rson#	ssion%		sold	_amt		
0	1	0		0	1		0	↑		

4.

a.

| Given (2NF) |
| A | B | C | D |
| ↑ | | ◎ | ↑ |
| (↑) | ◎ | ↑ | (↑)

- a. (a) Candidate key is {B}
- a. (b) Best normal form is 2NF
- a. (c)

		BC	NF		
В	C		C	A	D
0	1		0	1	1

b.

G	Given (3NF)									
A	В	С	D							
0	0	1	↑							
1		0								
	↑		0							

- b. (a) Candidate key is $\{A,B\},\,\{C,D\},\,\{A,D\},\,\{B,C\}$
- b. (b) Best normal form is 3NF
- b. (c)

	BCNF									
Α	C		В	С		A	D		В	D
1	0		0	0		0	0		1	0

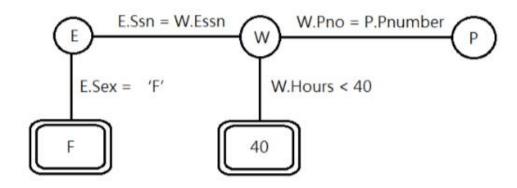
5. No-Steal: Cache cannot be flushed before transaction commit.

Force: Cache is immediately flushed (forced) to disk.

此方式耐用性高,無須 undo 及 redo 的協助,但效能非常差。

[E.Fname, E.Lname]

[P.Pname]



(b)

