الاسم: يمن رمضان عبدالغفور أديب

2008/14 الرقم الأكاديمي Sec: 9

1- The General Characteristics of advanced database application are :-

(a) design may be large with multiple independent design of Cumsystem.

(b) designis dynamic and change with time updates are for reaching.

(c) design date is large number of type but less number of instance.

2- Because of the weakness of RDBms , you can't understaned the Recursive queris Poor Represent at in of "readword" ambi , seinantic over loading, the constraints is less, Limit operatisns, Difficulty hand Recursivequeries.

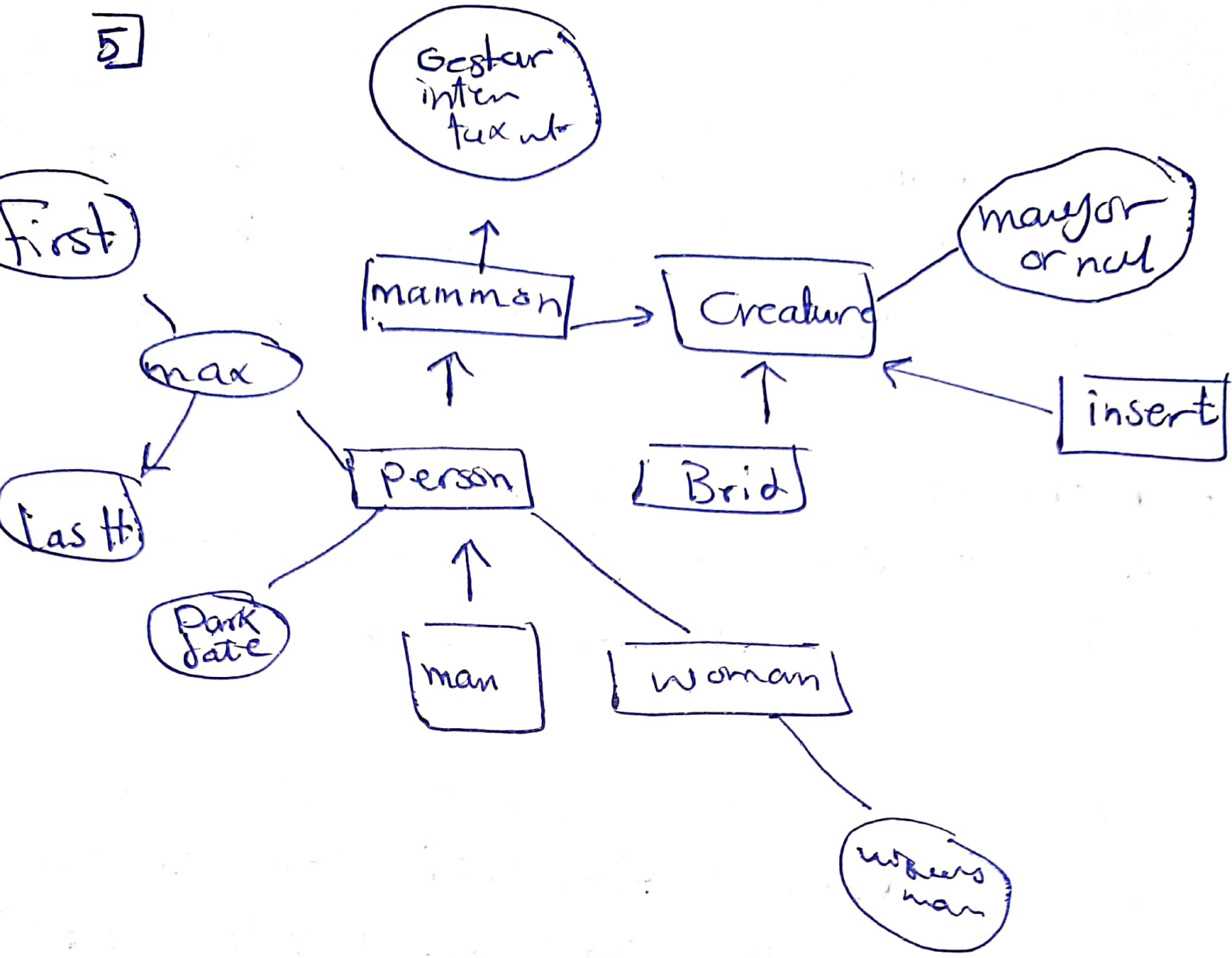
3.- (a) MaPeach class or Sub class to relation:-
This strat egg isto take Primary key from the Parent class and Put it in all Subclasses.

(b) MaPeacli Subclass to arelabion :-
tuck all attributes From the Perent class then Put them in all inherited Subclasses.

(c) Map the bieraechyto a single relation :-
take all abributes from child classes the Put them in the Patent class and Put them typefay

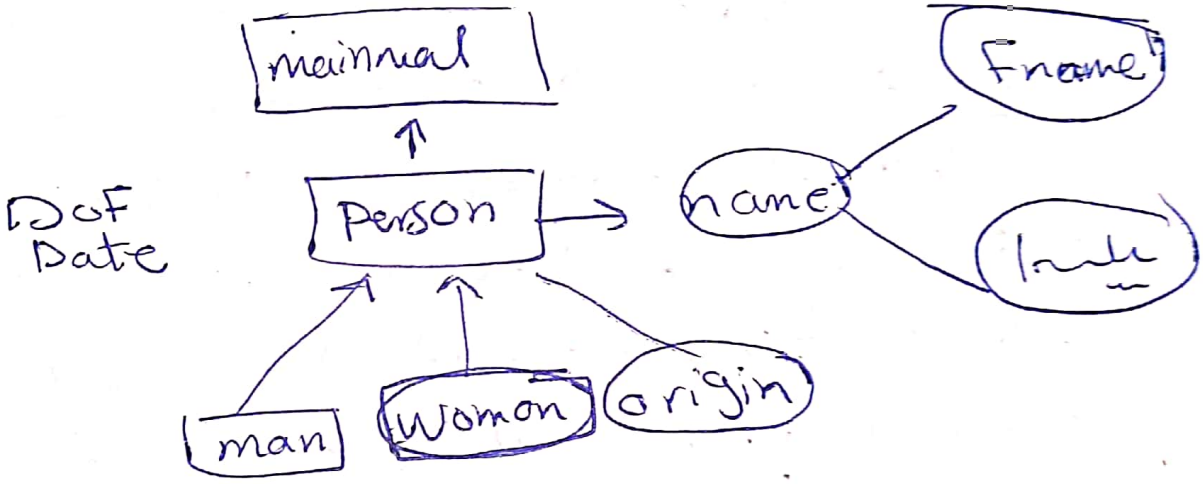
4- Typed tables are tables are depined with aser-deined structure type with typed tables, You Can establish a hierarchical structure with a defined relationship between thase tables Called atable. ahierarchy the table heirarchy is made up of a single root table, Superatuls and Subtables.

5



insert into Person (Name, Date of Burth, Gender)
Value (Amany 0.5.2002, "Women")
insert into man (name, Age, wifename)
values (Ahmed, (o mishel)

man	women
wife	husband
Woman	man



6- (a) Data Fusion

multist [" 14-may-13", "14-no) 18" ,
(14-may-14], " 24-ma] 13", "26
may, (28-APr" 12]

Data insersection Multiset ["4-may 19"]

(b) Data card — Data element

2 — Exception

3 — Exception

2 — exception

A - Atamicity → either all operation of the transaction are property reflected in the database of movear.

Consistancy → exeation of the transaction is isolation Person the consistancy of the database

Isolastist → intermediate transection result must be hidde frD other concurently excutel transection

Dalability → after transection complate succful the changes if there are system fullipe.

8- Active → the initial start, the transection stay in the state while it exacting.

- Pertay Commited ⇒ after the Final statement has been exactes.

- Failed → after the discovery that normal extion can no longer proceed.
- Commited → after successful Completion.

9- Serial Schedule → execation all operation of one then after Commit move to the another instruction.
- seriliaziable schedule → schedule is serializable Fit is equivelent to serial schedule

5

t_1	t_2
Read (A)	
A = A - 50	
write(A)	
	read(A)
	temp = A * .1
	A = A - temp
	write(A)
read(B)	
B = B + 50	
write (B)	
Commit	
	read (B)
	B = B - temp
	write(B)
	Commit

t_1	t_2
Read(A)	
A = A - 5)	
write(A)	
read (B)	
	Read (A)
	temp = A * .1
	A = A - temp
	write (A)
B = B + 50	
write(B)	
Commit	
	Read (B)
	B = B - temp
	write (B)
	commit

10 - Recoverable Schedule → if transaction t_2 reads item previously written by than t_1 then the commit operation of t_1 must appear before the commit operation of t_2.

- diserable because recoverable schedule help in solve if t_1 Failure & have instruction for change n & t_2 also the commit of t_2 after t_2 Finish.
- No, Because database must ensure that schedules are recoverable.

11- Because Concurrent Execution Provide improved Throughout and resource utilization and reduce overage responce time for transaction Concurrency control schemes machines to achieve isolation.

12- Yes, when set of transaction is such that each transaction is waiting for another transaction in cycle manner then th system is said to be block state deadlock occurs when transcestion keep waiting

13- (a) $T_1 \rightleftarrows T_2$ not confict

(b) T_1 T_2 - conflict
T_3 not recoverable

14- advantages :-
* can be decreases waiting time for other Transaction
* get more concerrancy.
disadvantages :-
don't ensure freeds from deedlock

15- Deadlock avoidnce is probable if the Consequ of aboad are insno and if there is high connection and aresting high Probability of deadblock

16- (a) Is $(T_1) > R\text{-}TS(A)$ and $ts(T_2) > R\text{-}TS(A)$
Then the write operation $W\text{-}ts(A)$ is exacted
$W\text{-}TS(A_1 218)$ $R\text{-}TS(A) = 8$

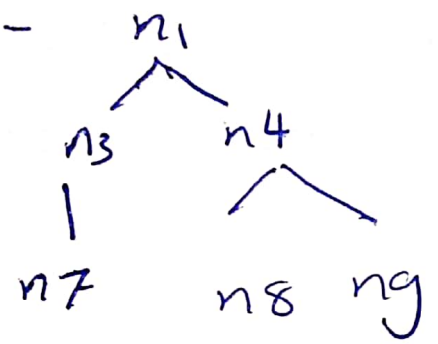
(b) $TS(T_2) < R\text{-}ts(B)$ & $TS(T_2) < W\text{-}TS(B)$
then write operation W.TS(B) is executed
W.TS(B) = 19, R.ts(B) = 22.

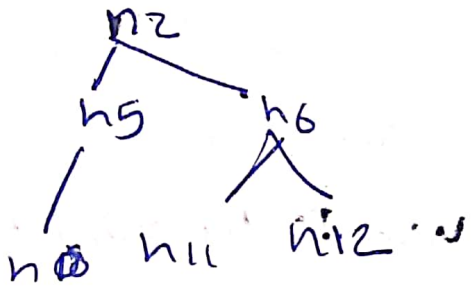
(d) $TS(T_1)$ & $RUT_S(C)$ & $ts(T_4) > R\ ts(C)$
then the write is rejected an illegal back
R.TS(AF)2 & W.ts(D) = 29.

(c) $TS(t_3) < R.ts(C)$ & $TS(T_3) > W.ts(C)$
then the read operation is executed and
R-ts(C) = 17 & W.ts(C) = 13

(e) $TS(T_5)$ & R-TS(e) & ts(T_5) > W.ts(e)
the write rejected
R.TS(e) = 12, W-TS(e) = 16

17 -





We should have transaction t_1 and t_2 consider the following logic schedule.

T_1	t_2
lock(n_1)	
lock(n_3)	
write(n_3)	
unlock(n_3)	
	lock(n_2)
	lock(n_5)
	write(n_5)
	unlock(n_5)

T_1	t_2
lock(n_5)	
read(n_5)	
unlock(n_5)	
unlock(n_3)	
	lock(n_3)
	Read(n_2)
	unlock(n_3)
	unlock(n_3)