Name - AKASHKUMAR SAHU

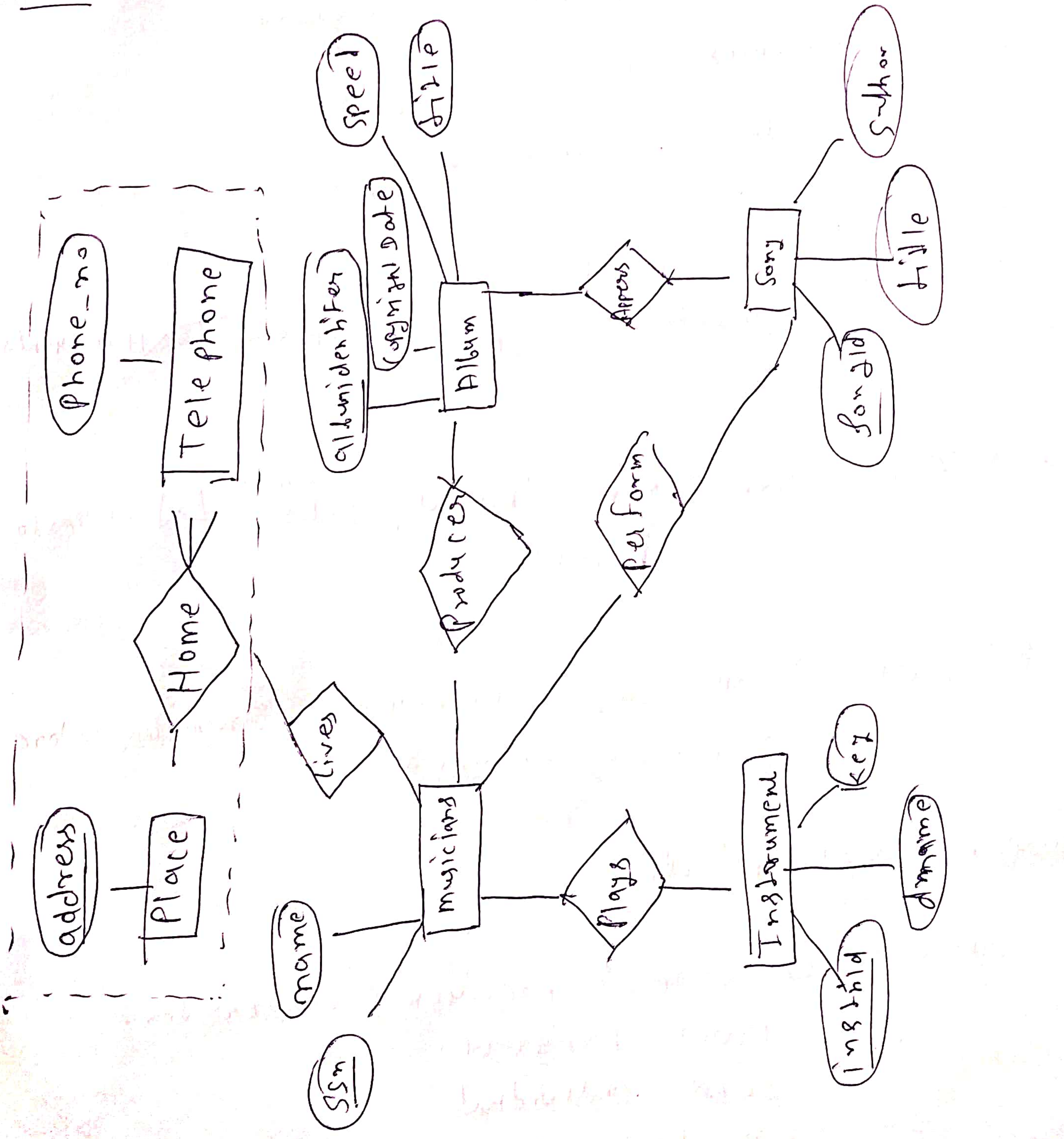
midsem - 2021

ID - 2019KUEC2021

Sub. DBMS

Sign - Akashsahu

Q1



2017KUEC9026

Q.2 - division opretion ?:

T

P	Q	R
p_1	q_1	r_1
p_1	q_1	r_2
p_1	q_2	r_1
p_2	q_2	r_1
p_3	q_1	r_2
p_2	q_2	r_2
p_2	q_2	r_3
p_1	q_1	r_4

÷

P	Q
p_1	q_1

we have T as R

$T_1 \leftarrow \pi(R-S)(R)$

$T_2 \leftarrow \pi(R-S)((S \times T_1) - R)$

$T \leftarrow T_1 - T_2$

where $T = R \div S$

$R - S =$

R
r_1
r_2
r_3

$T_{12} = \pi(R-S)\ R$

$=$

R
r_1
r_2
r_3
r_4

For T_2 $\quad S \underset{S}{\times} T_1$

P	Q
p_1	q_1

$\times$

T_1

R
r_1
r_2
~~r_3~~
r_4

$S \times T_1 =$

P	Q	R
p_1	q_1	r_1
p_1	q_1	r_2
p_1	q_1	r_3
p_1	q_1	r_4

$(S \times T_1) - R = S \times T_1$

P	Q	R
p_1	q_1	r_1
p_1	q_1	r_2
p_1	q_1	r_3
p_1	q_1	r_4

−

R

P	Q	R
p_1	q_1	r_1
p_1	q_1	r_2
p_1	q_1	r_1
p_2	q_2	r_1
p_3	q_1	r_2
p_2	q_2	r_2
p_2	q_2	r_3
p_1	q_1	r_4

$(S \times T_1) - R =$

P	Q	R
p_1	q_1	r_3

$T_2 = \pi_{(R-S)} ((S \times T_1) - R) =$

R
r_3

$T_1 - T_2 = (\pi \times R) \div S)$

⇒

R
r_1
r_2
r_3
r_4

−

R
r_3

⇒

R
r_1
r_2
r_4

Finaly, $R \div S$ as $T \div S$

R
r_1
r_2
r_4

Q.3 - individual (name age, gender)

Frequents (name, burgerstore)

Consumes (name burger)

Provides (burgerstore, burger, price)

(a)

$\pi_{burgerstore}((\sigma_{age < 20}(Person)) \bowtie Frequents)$

(b) $\pi_{burgerstore}((\sigma_{name='Rahul'}(\overset{Consumes}{\cancel{Eats}})) \bowtie \sigma_{Price<80}(Serves))$

(c) Eats → $\pi_{name, burger}(Frequents - \pi_{name, burgerstore}(Eats \bowtie Serves))$

10 using - Sql Application

Part a -

```
~~SE~~ SELECT frequents.burgerstore
from frequents
JOIN Individual
on Frequents.name = Individual.name
where Individual.age <20
```

Q③ →

(b) SELECT Provides. burgerstore

From Provides

JOIN Consumes

ON Provides . burger = Consumes. burger.

where Consumers. name = 'Rahul'

AND Provides. Price < 50

((c ~~SELECT Individuals~~ name

~~Consume. burger~~

~~From India~~

Q.4 (a) Cardesian Product

no of maximum tepiples in Cartisian product it n x m

min. no of tuples :- m x n

(b) Join :- min ~~max~~ no of tuples in relation = 0 (Intersaction)

max. no of tuples in resulting releation = m x n

if no matching key contains join will produce product)

(c) left outer join :

max is m*n (same as natural join)

min is n (no of tuple left join)

(d) Righ outer join :

max = n * m

(all rows in left table matching with all rows in right table)

min = m

(e) Full outer join .

max = n*m (if all rows in left table matching with all rows in rignt table)

min = n + m

(if no tuple matching b/w the two table but still we have to include all the tuple)

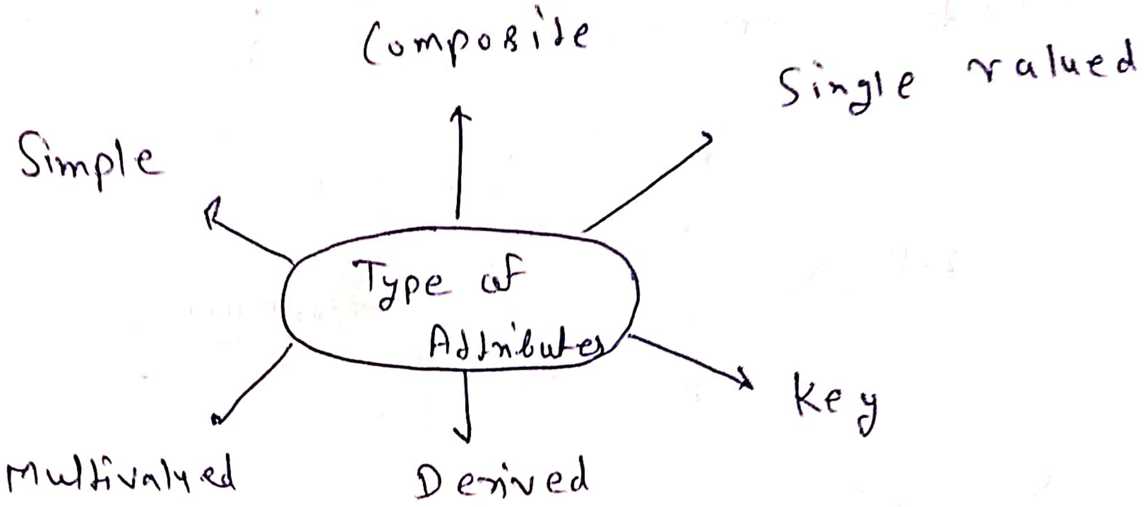
(f) Union : max = n+m

(Union we add all the tuples from both relations)

min = the minimum is m

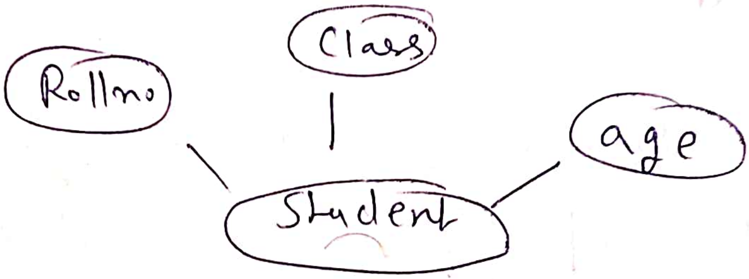
(the gretest of two size m and n)

8.5 - Type of Attributs!.



(1) Simple:. Simple Attributs are those which cannot be divided furthur.

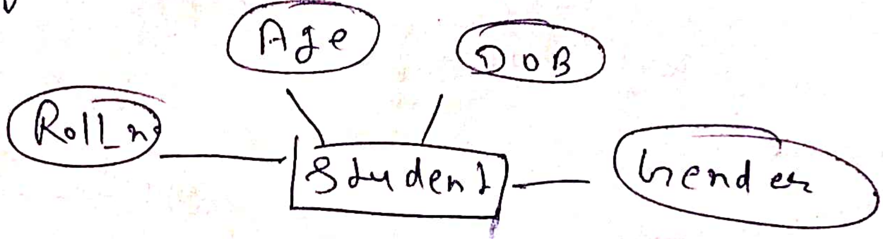
eg



(2) Composite:. these are those which are composited of many other simple attributs.

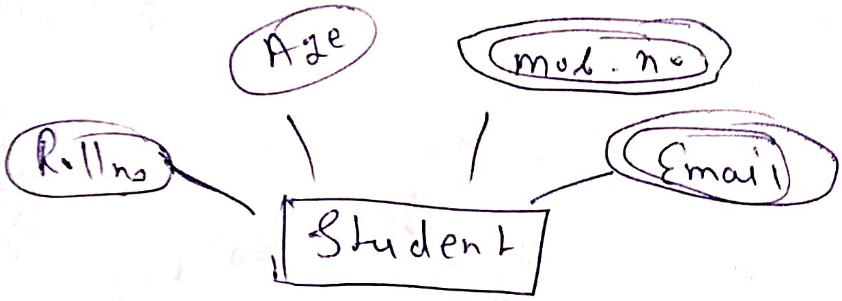
(3) Single Valued are those attributs which can take only one value for a given entity set

eg



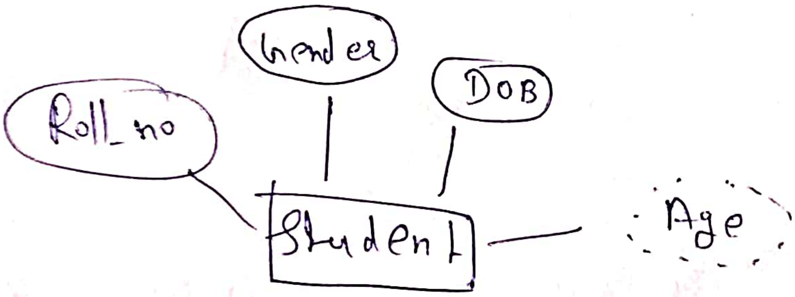
(4) Multivalued: are those which can take more than one value for a given entity from an entity set.

eg



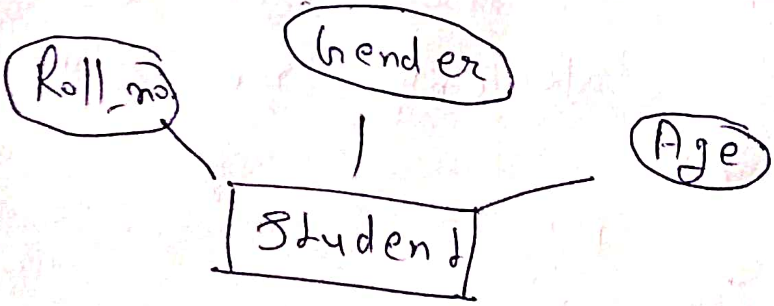
(5) Derived: Derived Attributs are which can be derived from other attributs.

eg:



(6) Key: which can identify an entity uniqely in an entity set.

eg:



(?) Weak entity set: is an set that does not contain sufficiant attributes to uniquely idenify its entites and Primary key does not exist for this entity set.

it contains a partial key called as discriminator

Primary key of weak entity set

: its own discriminator + Primary key of Strong entity set