

Title : _____

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CSE370

Assignment 4

Name : Shihab Muhtasim

ID : 21301610

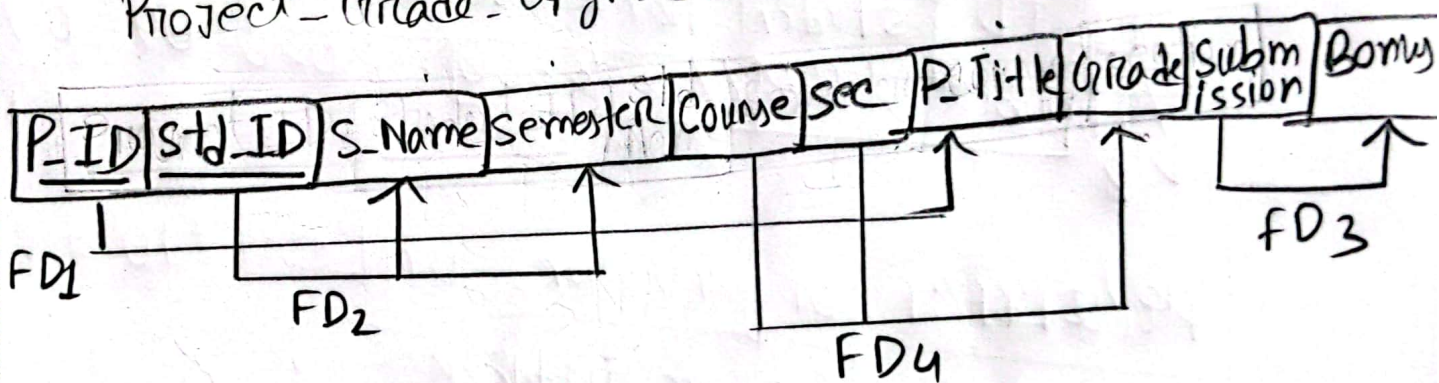
Sec : 9

Ans to or 1

i) The given relation is in 1NF because it has no composite attributes, multivalued attributes or nested relations.

ii) Given,

Project_Grade_upgrade



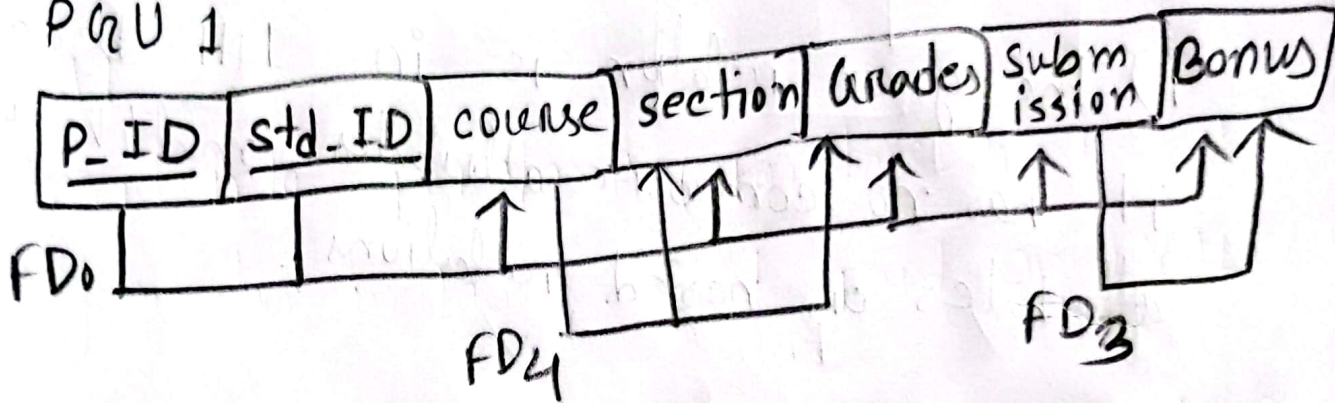
This is not in 2NF as FD₁ and FD₂ has partial dependency since it doesn't involve all primary keys.

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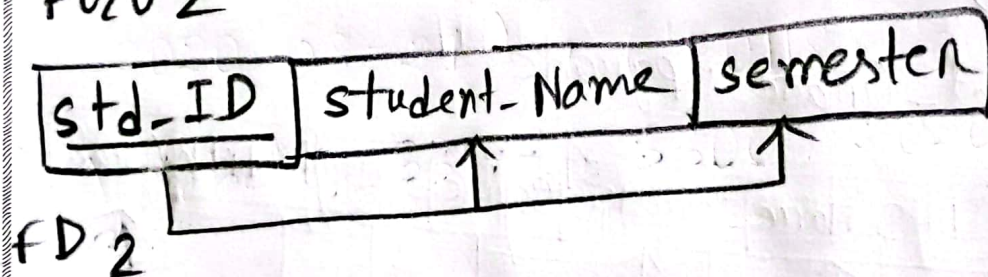
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2NF Normalization :

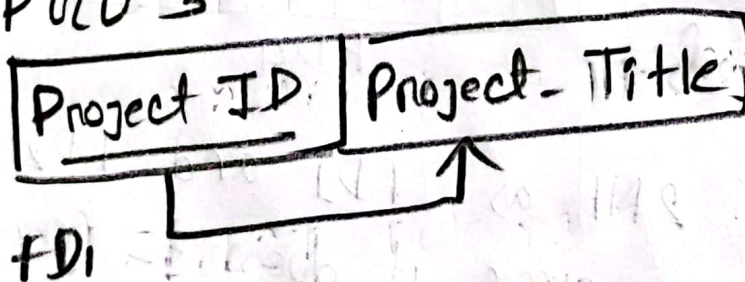
PGU 1



PGU 2



PGU 3



iii) It is not in 3NF because of FD_3, FD_4 ,

Here - $FD_3 : P_ID, std_ID \rightarrow Submission$

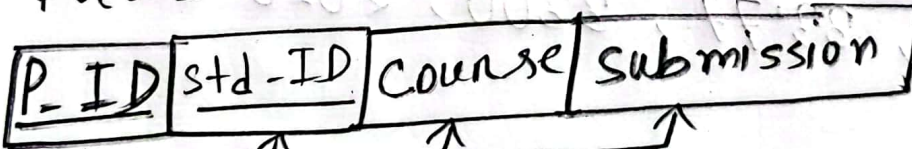
$Submission \rightarrow Bonus$

$FD_4 : P_ID, std_ID \rightarrow Course$

$Course \rightarrow section, grades$

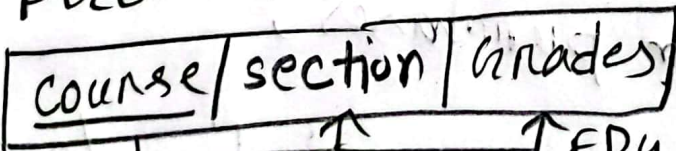
3NF:

PRU 1



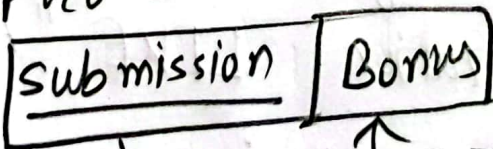
FD_1

PRU 2



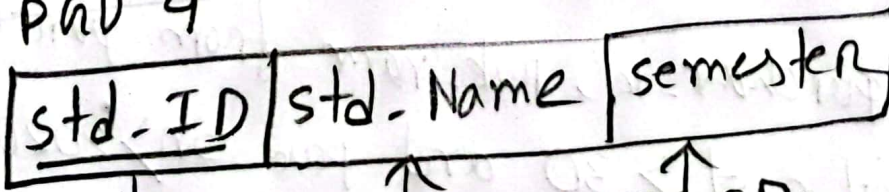
FD_4

PRU 3



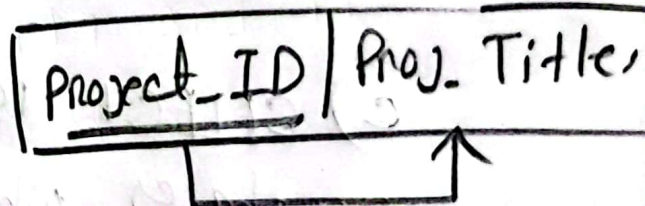
FD_3

PRU 4



FD_2

PRU 5



FD_1

Ans to q 2

A)

Insert into Billing (purchase_id, role_name, organization, unitcost, count, paid-on) VALUES

('P0117', 'admin', 'Blue Sky', 13.05, 150, '2020-08-21'), ('P0118', 'auditor', 'Alphabet', 33.77, 3300, '2020-09-07');

B) SELECT organization, unitcost * 10 + count as amount from Billing;

C) SELECT role_name, organization from Billing where organization LIKE "A%" or organization LIKE "%d";

D) SELECT purchase_id, role_name from Billing where unit_cost > 30 and paid-on > '2020-06-30';

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e.8)

| Organization | Count |
|--------------|-------|
| Host brator | 1 |
| Namecheap | 3 |