DATABASE SYSTEMS – CS3043

LAB 05 – DATABASE NORMALIZATION

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01.

Customer_ID	First_name	Second_name	Contact_no	Location_lat	Location_long
0001	Micheal	Phelps	941111111	33.680565	73.020199
0002	Roger	Federer	942222222	33.646104	72.990074

02.

Customer_id	Customer_name
0009	Tom
0013	Jane

Sales_rep_id	Sales_rep_name
0987	Andrew
0034	Peterson

Customer_id	Sales_rep_id	payment
0009	0987	100000
0013	0034	150000

03.

Courier_id	Courier_type
1	Standard
2	Same Day
3	International
4	Overnight

Package_id	Courier_id	amount
1	3	145.00
2	2	14.00
3	1	16.50
4	4	80.00
5	1	20.40

04.

- The functional dependency H → I means that the value of I is uniquely determined by the value of H.
- The functional dependency K → OM means that the values of O and M are uniquely determined by the value of K.
- The functional dependency O → MN means that the values of M and N are uniquely determined by the value of O.
- The functional dependency KO → I means that the value of I is uniquely determined by the values of K and O.

Therefore, if we know the values of K and O, we can uniquely determine the values of I, M, and N. In other words, the set of attributes {IKOMN} is functionally determined by the set of attributes {KI}.

05.

F = {A → BC, A → C}

This implies attribute A is a primary key of the relation.

06.

Emp_id	Emp_nationality
002	Sri Lankan
003	Canadian

Dept_type	Emp_dept	Dept_no_of_emp
D001	Finance	9
D002	Logistics	15
D003	warehousing	6

Emp_id	Dept_type
002	D003
002	D002
003	D002
003	D001