**CS403 ASSIGNMENT NO 2 SOLUTION FALL 2019:**

**QUESTION NO 1:**

CONVERT ERD INTO RELATION DATA MODEL



**Solution:**

****

**Question No 2:**

**Order:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **order\_id** | **order\_status** | **delivery\_date** | **btag\_no** | **cust\_id** | **sman\_id** |
| od001 | Completed | 10/30/2019 | bt001 | cust001 | sm001 |
| od002 | Completed | 10/30/2019 | bt002 | cust002 | sm001 |
| od003 | Completed | 10/30/2019 | bt003 | cust003 | sm001 |

**Bill:**

|  |  |  |  |
| --- | --- | --- | --- |
| **bill\_id** | **cust\_id** | **order\_id** | **net\_amount** |
| b001 | cust001 | od001 | 500 |
| b002 | cust002 | od002 | 550 |
| b003 | cust001 | od003 | 600 |

And write the output of the following relational algebra operations:

* **∏ order\_id, cust\_id, sman\_id (Order)**

**∏ O**perator name is projection this is used to select all the colum in the table

It will select three colums, order\_id, sman\_id and cust\_id. It also delete the unwanted colums on the basis of condition

* **σ net\_amount > 500 (Bill)**

**σ** is used for selection. it select the subset of rows from table answer will be second and third row from bill table answer will be (550,600)

* **∏ order\_status, delivery\_date (σ btag\_no= ‘bt002’ (Order))**

In this it will first perform the selection and select the btag no row from order table then projection will be performed and in projection it will selct the colum order-status value and delivery date value where btag no is bt002.

**Answer will be order status delivery date**

 **Completed 10/30/2019**

**Question no 3:**

1. Find the degree and cardinality of the relations (**Order and Bill**) given in the 2nd question.

**(a)**

**Degree** = number of attributes or colums in the table is his degree

Order table have 6 colums/attributes so its degree will be 6

Bill table have 4 colums/attributes so its degree will be 4

Degree of the (Order and Bill) will be

**Degree -> 6+4=10**

 **(b)**

 **Cardinality** = numbers of tuples/rows in the table

 Number of rows in order table = 3

 Number of rows in bill table =3

 Cardinality of order and bill (rows\*rows)

 **Cardinality -> 3\*3 =9**