Assignment #04

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Question #01 :-

a) Lists all the hotelNo from relation Hot Room having price greater than 50.

b) Displays all the tuples from the cartesian product of Hotel and Room where hotelNo is equal in both relations.

c) Lists the name of all hotels where price of the room is greater than 50.

d) Displays the guests name of all the guests who have stayed in all the hotels of 'London'.

Question# 02 :-

a) σ (Hotel)

b) $\sigma_{(price < 20 \text{ and } type = 'single')}$ (Room)

c)

$R_1 \leftarrow$ Guest $\bowtie_{(Guest.guestNo = Booking.guestNo)}$ Booking

$R_2 \leftarrow \pi_{guestName, city} (R_1 \bowtie_{R_1.hotelNo = Hotel.hotelNo} Hotel)$

d) $R_3 \leftarrow \sigma_{hotelName = 'Grosvenor'}$ Hotel

   $R_4 \leftarrow \Pi_{price, type} (R_3 * Room)$

e) using R_3 from part (d).

   $R_5 \leftarrow R_3 * Booking$.

   $R_6 \leftarrow \sigma_{(dateFrom <= Sysdate() \text{ and } dateTo >= Sysdate())} R_5$

   $R_7 \leftarrow \Pi_{(guedNo, guestName, guestAddress)} (Guest * R_6)$.

f) using $\overset{R_6}{\cancel{R_7}}$ from part (e).

   $\cancel{R_8 \leftarrow Room \bowtie}$
   $_{(Room.hotelNo = R_6.}$

   $R_8 \leftarrow Guest * R_6$

   $R_9 \leftarrow Room \bowtie R_8$
   $_{(Room.hotelNo = R_8.hotelNo \text{ and } Room.roomNo = R_8.roomNo)}$

   $R_{10} \leftarrow \Pi_{(roomNo, hotelNo, type, price, guestName)} R_9$

g) using R_5 from part (e).

   $R_{11} \leftarrow \Pi_{(guestNo, guestName, guestAddress)} (\cancel{R_5} * Guest * R_5)$

h) using R_3 from part (d).

   Create view Room_view as

   $\cancel{3} \Pi_{(roomNo, hotelNo, type)} (Room * R_3)$

Advantage ⇒

This view will ~~pre~~ present a consistent, unchanged image of the structure of the database, even if the underlying sources tables are split, restructured, or renamed. Also any changes to the values in other attributes of R-relation Room will not be reflected in this view. User has all rooms in Grosvenor Hotel in one place which can make the query simple too. for later use