Assignment # 4

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Q.1

a) $\pi_{hotelNo} (\sigma_{price > 50} (Room))$

It will give only the hotelNo of those rooms where price > 50. So only one column.

b) $\sigma_{Hotel.hotelNo = Room.hotelNo} (Hotel \times Room)$

It is a join condition and since no condition is applied, therefore all attributes of both table.

c) $\pi_{hotelname} (Hotel \bowtie_{hotel.hotelNo = Room.hotelNo} (\sigma_{price > 50} (Room)))$

It will give only the hotelname from both the table after performing the join condition on price > 50 and fetching only those rows.

d) $\pi_{guestName, HotelNo} (Booking \bowtie_{Booking.guestNo = Guest.guestNo} Guest)$
$\div \pi_{hotelNo} (\sigma_{city = "London"} (Hotel))$

It will show guestName, hotelNo of all the guest after performing join condition that city = london that have booked hotel.

$R = S (GuestName, Hotel)$
$T (Hotel No)$

Q2.

a) $\pi_{hotelNo, HotelName, city}(Hotel)$

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

c) $\pi_{guestName, getAddress}(Guest)$

d) $\pi_{price, type}(Room \bowtie_{hotelNO}(\sigma_{HotelName = 'Grosvenor'}(Hotel)))$

e) $\pi_{guestNO}(Booking \bowtie_{hotelNo}(\sigma_{hotelName = 'Grosvenor'}(Hotel))$

f) $Rooms \bowtie_{HotelNO}(\sigma_{hotelname = "Grosvenor"}(Hotel)) \bowtie$
$hotelNo = HotelNO \text{ and } roomNo = roomNo$
$\pi_{guestName, HotelNO, roomNO}(Guest \bowtie_{GuestNO}(Booking$
$\bowtie_{hotelNO}(\sigma_{hotelName = 'Grosvenor'}(Hotel)))$

g) $\pi_{guestNO, guestName, guestAddress}$
$(\sigma_{hotelname = 'Grosvenor'}(Hotel \bowtie_{HotelNo = HotelNO}$
$(Booking \bowtie_{guestNo = guestNO}(Guest))))$

A)

$$\pi_{roomNo, hotelNo, type} (\sigma_{hotelname = 'Grosvenor'} ($$
$$Hotel \bowtie_{hotelNo = hotelNo} (Rooms)))$$

Advantages would be; it would be more secure as only authorized people would see details. In a view, a query is simple than a query when finding the relations throw through query