Max Shi

1 pledge my honor that I have abided by the Stevens Honor System.

1. $\rho\left(\text{JanBookings}, \sigma_{\text{year}="2020" \wedge \text{fromDate} \geq "\text{Jan 01}" \wedge \text{fromDate} \leq "\text{Jan 31}"}(\text{Booking})\right)$
   $\rho\left(\text{NYCHotels}, \sigma_{\text{hCity}="NYC"}(\text{Hotel})\right)$
   $\pi_{\text{gName}}\left((\text{Guest} \bowtie \text{JanBookings}) \bowtie \text{NYCHotels}\right)$

2. $\rho\left(\text{SuiteBookings}, (\sigma_{\text{type}="suite"}(\text{Room})) \bowtie (\sigma_{\text{noOfDays} \geq 10}(\text{Booking}))\right)$

   $\pi_{\text{gName}}\left(\text{Guest} \bowtie \sigma_{\text{hCity}="NYC"}(\text{Hotel} \bowtie \pi_{\text{hId,gId}}(\text{SuiteBookings}))\right)$

3. $\rho\left(\text{LongBookings}, \pi_{\text{gId}}(\sigma_{\text{noOfDays}>5}(\text{Booking}))\right)$

   $\pi_{\text{gName}}\left(\text{Guest} - (\text{Guest} \bowtie \text{LongBookings})\right)$

4. $\rho\left(\text{2020Bookings}, \pi_{\text{hId}}(\sigma_{\text{year}="2020"}(\text{Booking}))\right)$

   $\pi_{\text{hName}}\left(\text{Hotel} - (\text{Hotel} \bowtie \text{2020Bookings})\right)$

5. $\rho(\text{AllNYCSuites})$
   $\rho\left(\text{AllNYCSuites}, \pi_{\text{roomNo}}((\sigma_{\text{type}="suite"}(\text{Room})) \bowtie (\sigma_{\text{hCity}="NYC"}(\text{Hotel})))\right)$

   $\pi_{\text{gName}}\left((\text{Guest} \bowtie \text{Booking}) / \text{AllNYCSuites}\right)$