

1. $\pi_{ean,descr}(\sigma_{name="Barras Energéticas" \wedge instant > "2021/12/31" \wedge units > 10} (has \bowtie ReplenishmentEvent))$
2. $\pi_{serial_number}(\sigma_{ean="9002490100070"}(planogram \bowtie shelve))$
3. $G_{count}()(\sigma_{super_name="Sopas Take-Away"}(hasOther))$
4. $T \rightarrow (_{ean,descr} G_{sum(units) \rightarrow tot_units}(ReplenishmentEvent))$
 $result \leftarrow \pi_{ean,descr} (T \bowtie G_{max(tot_units)}(T))$

SQL:

1. SELECT ean, descr
 FROM has NATURAL JOIN ReplenishmentEvent
 WHERE name='Barras Energéticas' AND instant > '2021/12/31' AND units > 10;

2. SELECT serial_number
 FROM planogram NATURAL JOIN shelve
 WHERE ean='9002490100070';

3.
 - a.
 SELECT COUNT (*)
 FROM hasOther
 WHERE super_name = "Sopas Take-Away"

 - b.
 SELECT *
 FROM (SELECT COUNT(super_cat)
 FROM hasOther)
 WHERE super_cat = "Sopas Take-Away"

4.
 SELECT ean, descr
 FROM (
 SELECT ean, descr, (SUM(units) AS tot_units)
 FROM ReplenishmentEvent
 AS T
 NATURAL JOIN (
 SELECT MAX(tot_units)
 FROM T)
)

$$5. \quad T \rightarrow \left(\pi_{ean,descr} G_{sum(units) \rightarrow tot_units}(ReplenishmentEvent) \right)$$

$$result \leftarrow \pi_{ean,descr} \left(T \bowtie G_{max(tot_units)}(T) \right)$$

6.

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SELECT ean, descr
FROM (
  SELECT ean, descr, (SUM(units) AS tot_units)
  FROM ReplenishmentEvent
  AS T
  NATURAL JOIN (
    SELECT MAX(tot_units)
    FROM T)
)

```