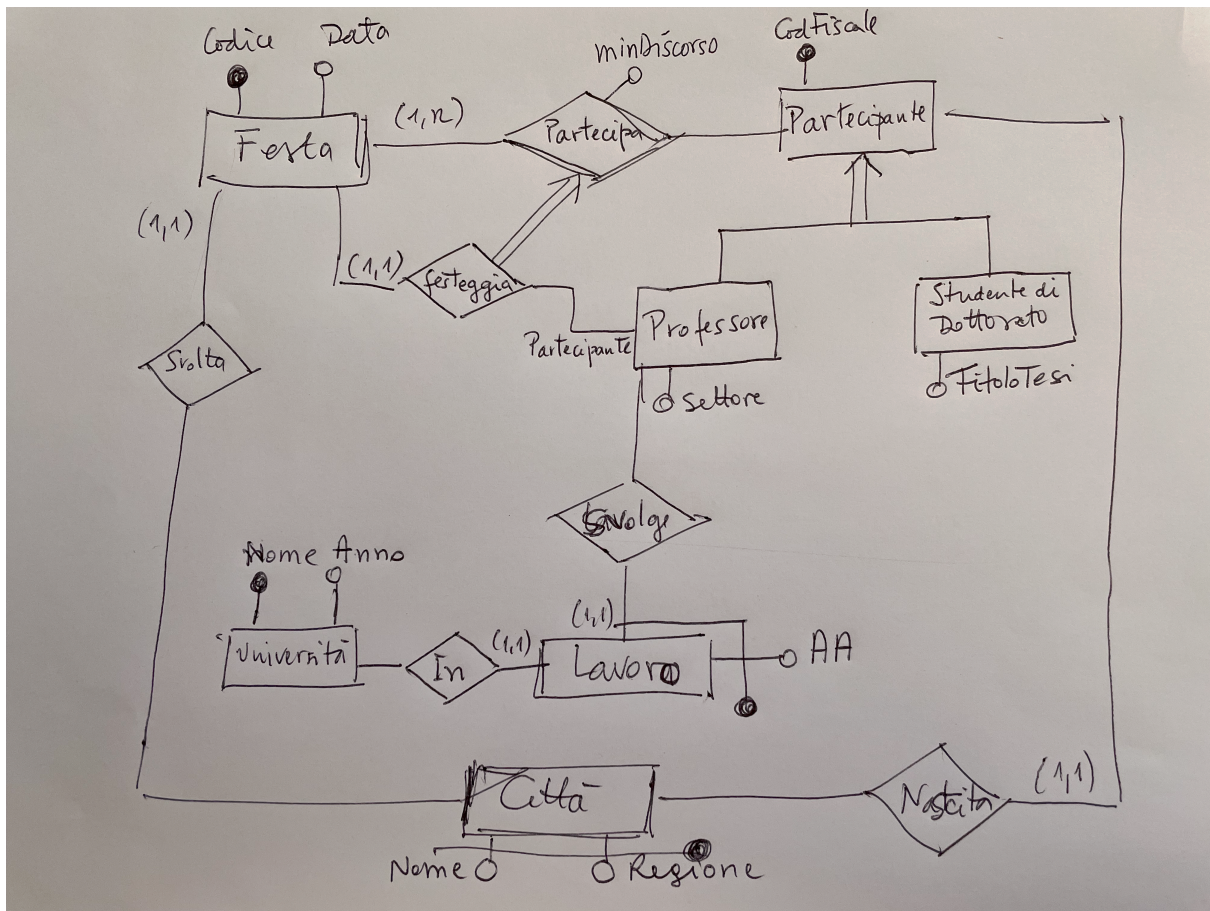


1. Soluzione del problema 1 del compito A



2. Soluzione del problema 4 del compito A

4.1

Studente NATURAL JOIN

$(\text{PROJ}_{\text{matricola}}(\text{Studente}) -$

$\text{PROJ}_{\text{matricola}}(\text{Esame JOIN}_{\text{matricola} = m \text{ and voto} = v \text{ and corso} \neq c} \text{REN}_{m \leftarrow \text{matricola}, c \leftarrow \text{corso}, v \leftarrow \text{voto}(\text{Esame}))))$

4.2

with NumEs **as** (**select** s.matricola **as** mat, s.età **as** e, count(m.corso) **as** nume
from Studente s **left join** Esame m **on** s.matricola = m.matricola
group by s.matricola, s.età)

select ne1.mat, ne1.num, count(ne2.mat)
from NumEs **as** ne1, NumEs **as** ne2
where ne1.e <= ne2.e **and** ne1.num < ne2.num