



# Banco de Dados

Aula 07

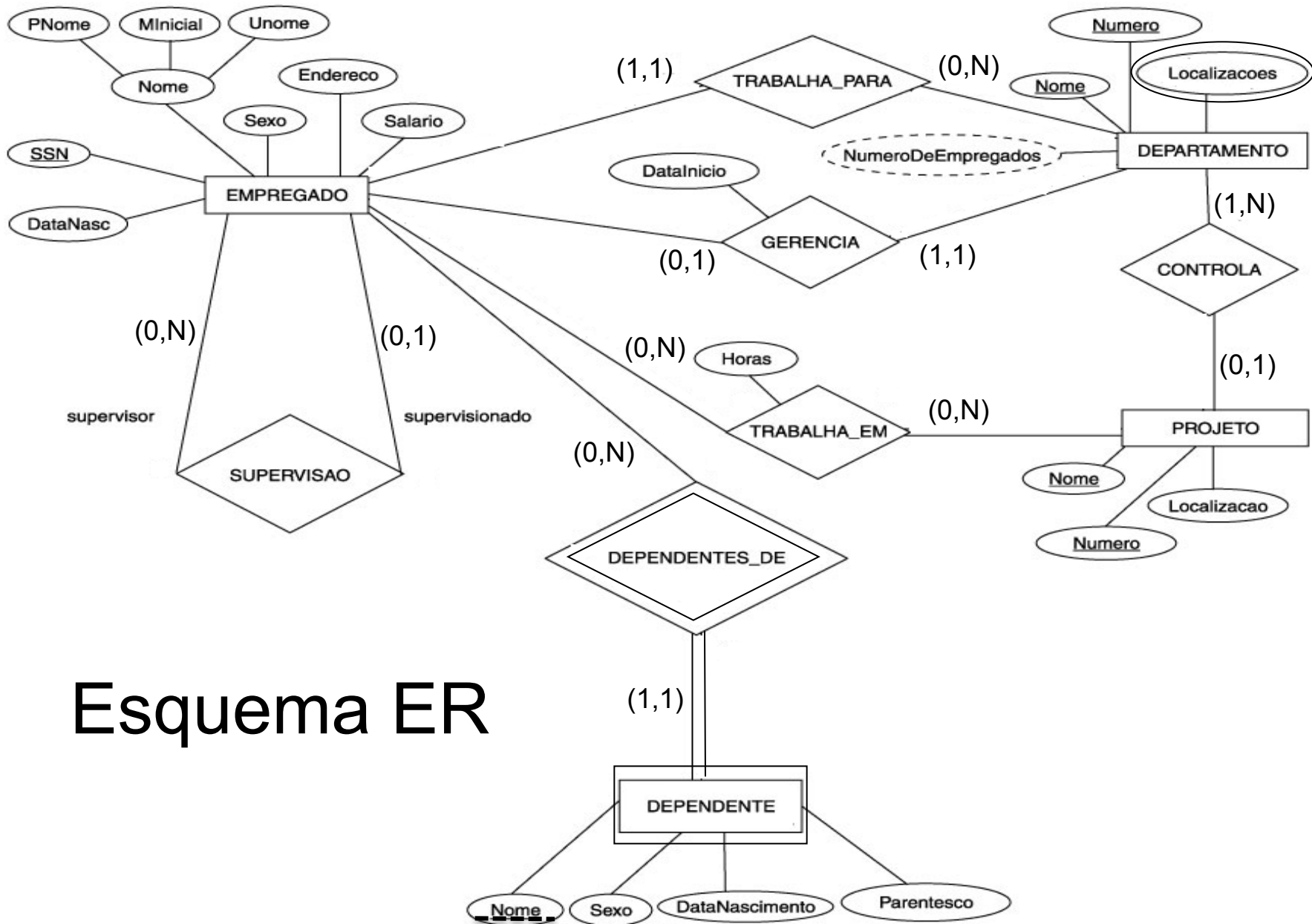
Mapeamento Lógico-Relacional

Alexandre Plastino - [plastino@ic.uff.br](mailto:plastino@ic.uff.br)

# Mapeamento Lógico-Relacional

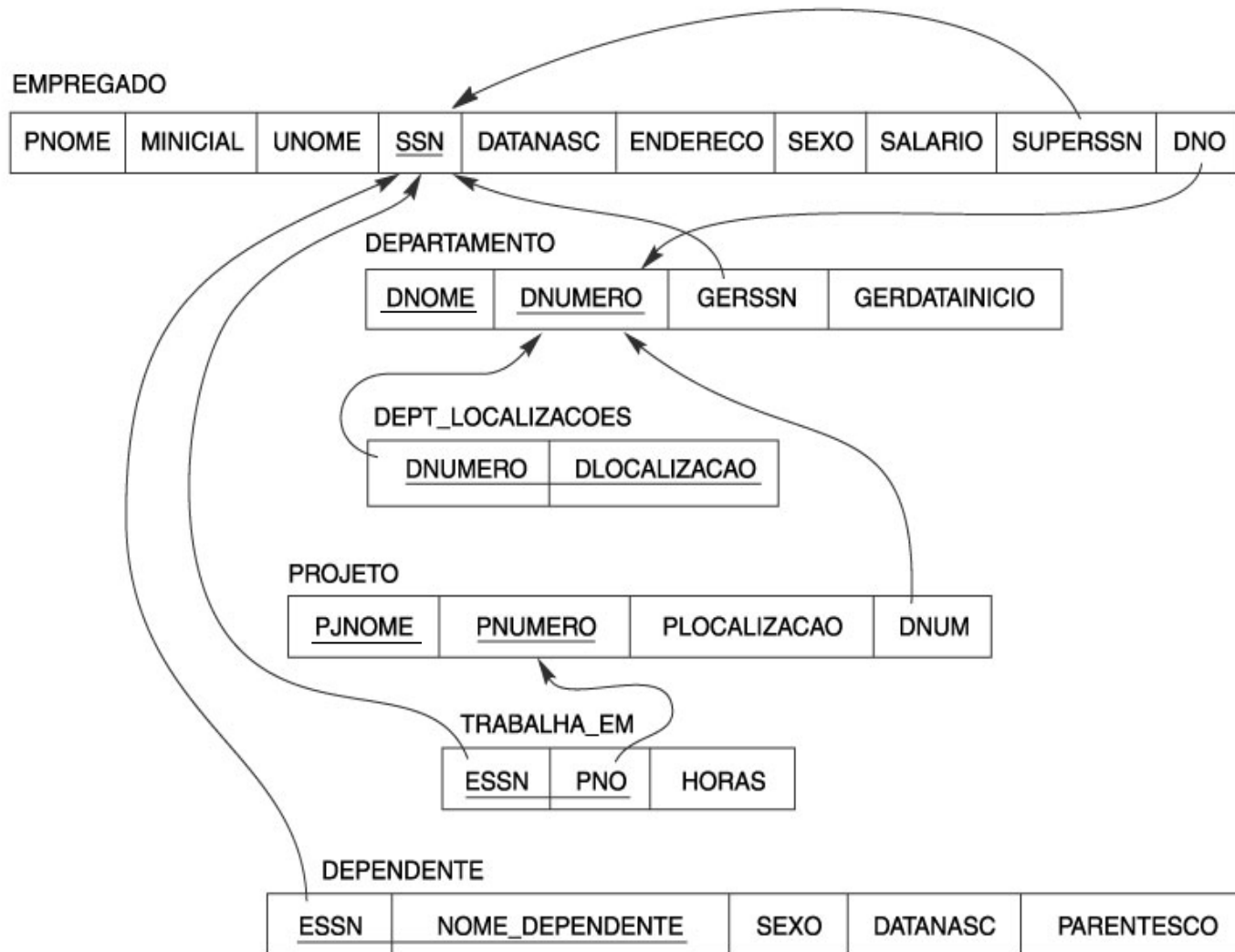
Entrada: esquema conceitual definido  
através do Modelo E-R.

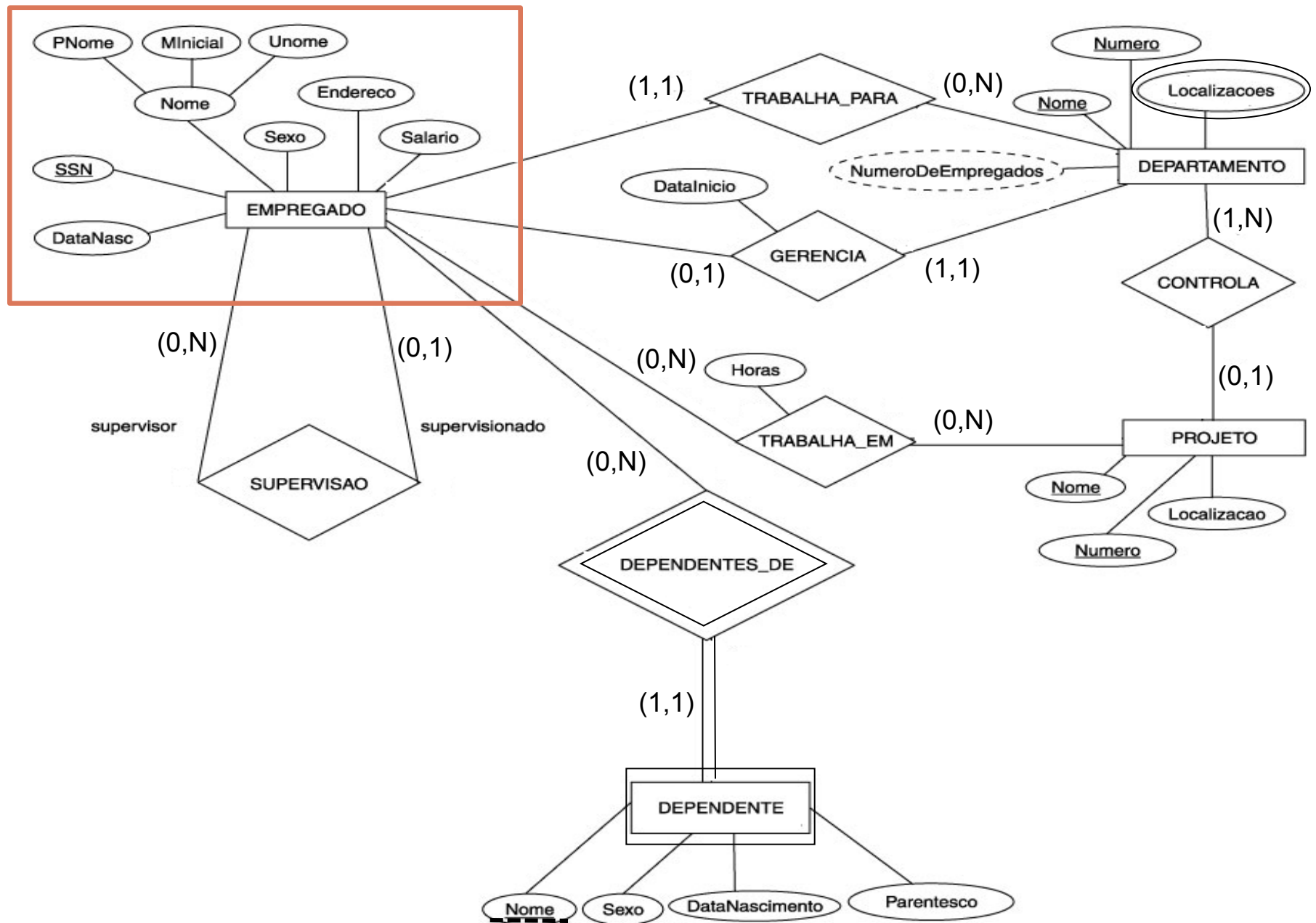
Saída: esquema lógico definido  
através do Modelo Relacional.

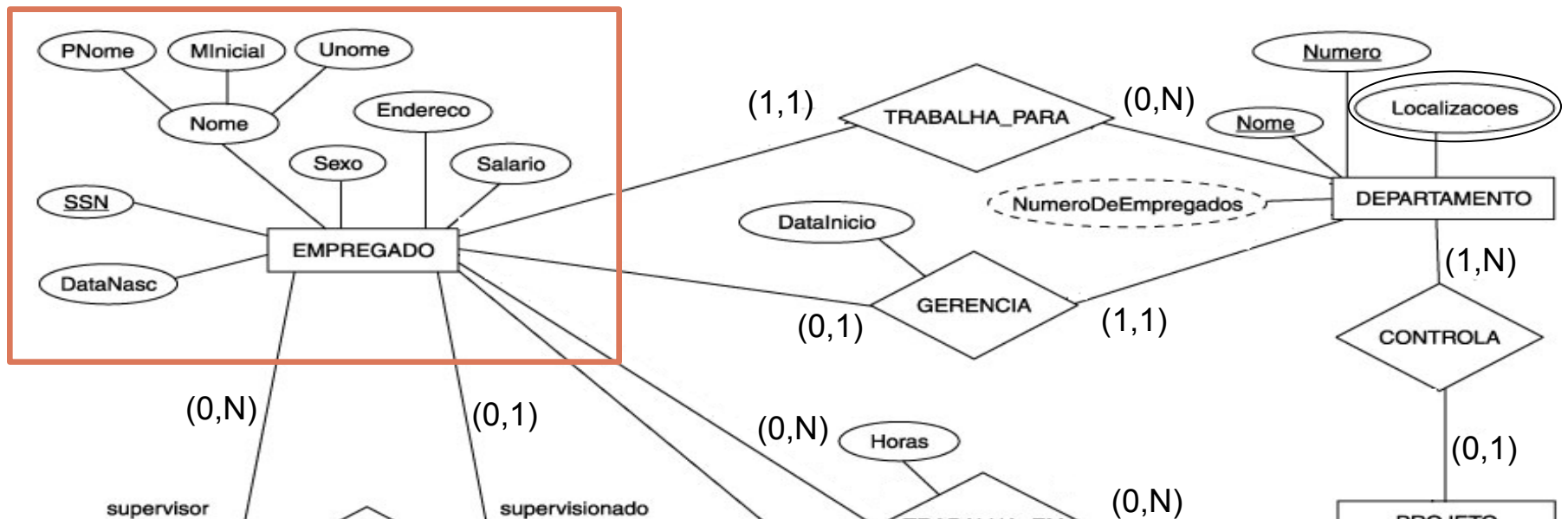


# Esquema ER

# Esquema Lógico-Relacional



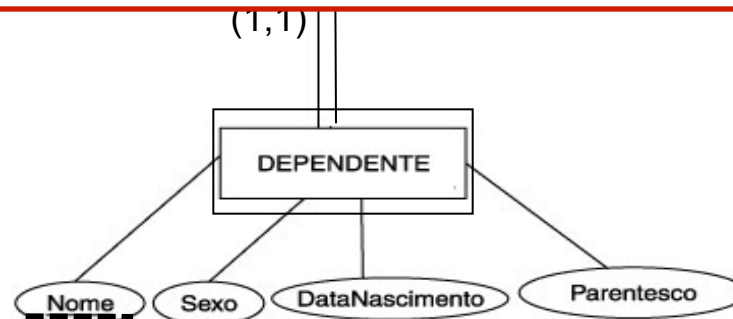


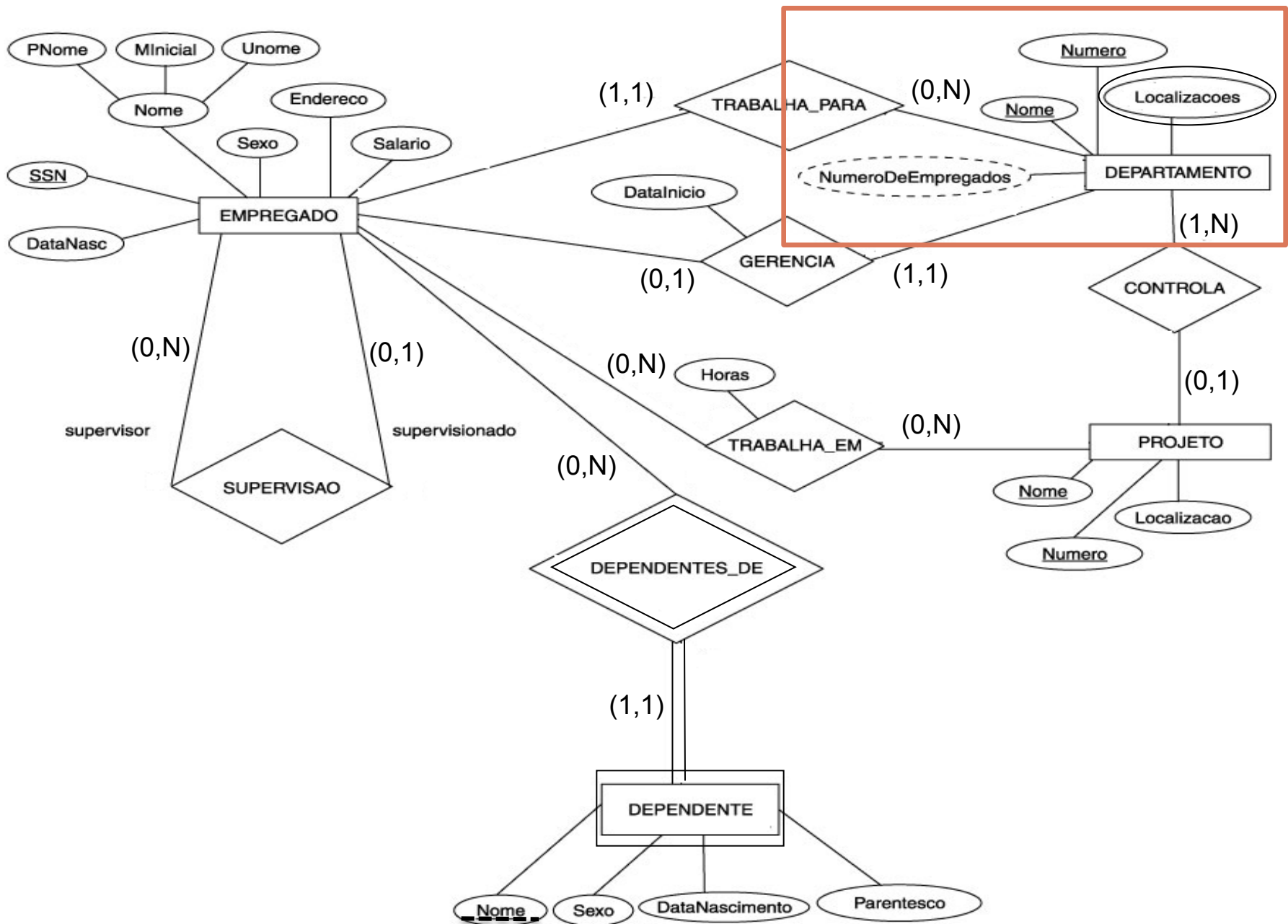


## ENTIDADE

EMPREGADO (SSN, Pnome, Minicial, Unome, DataNasc, Sexo, Endereco, Salario)

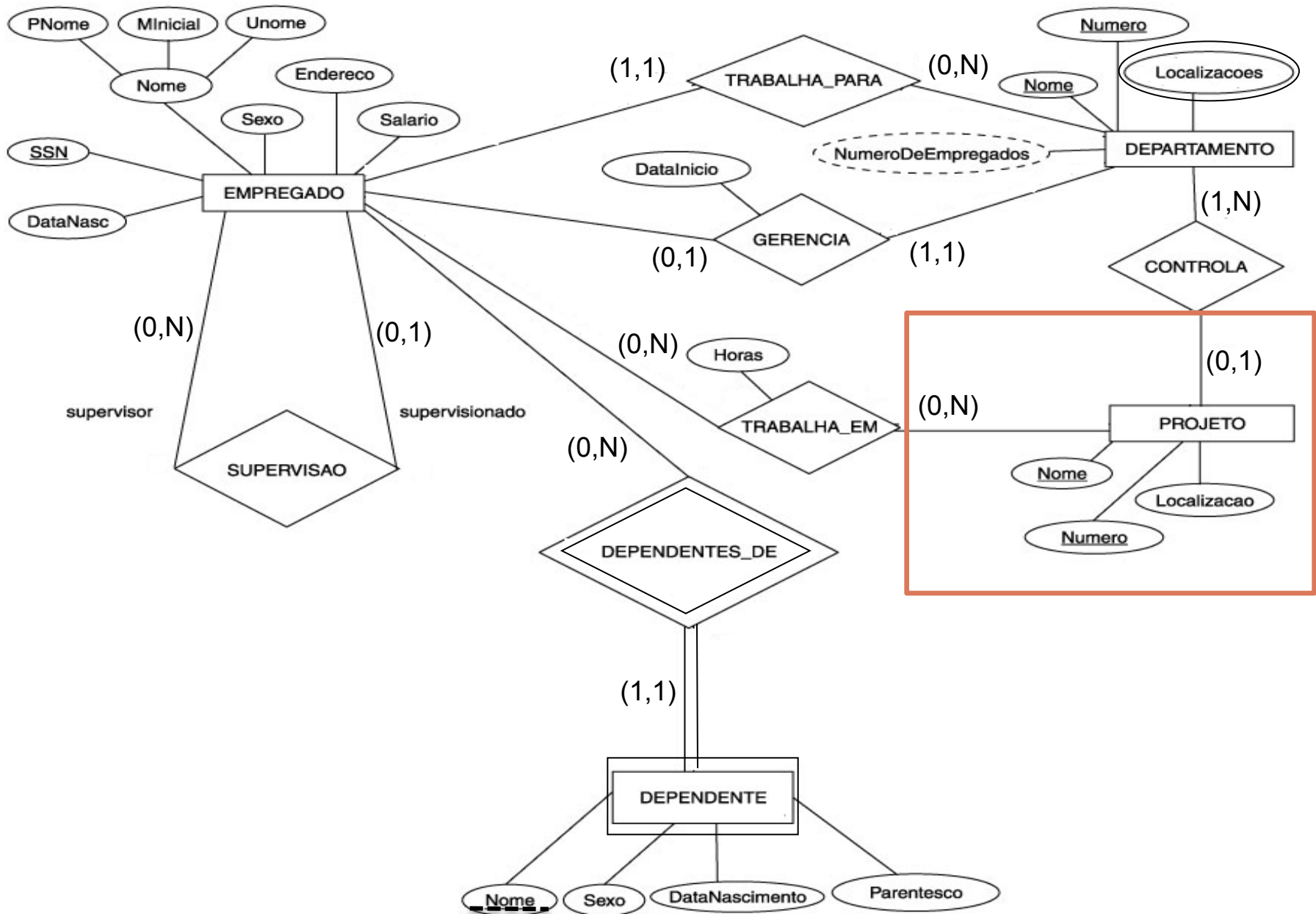
NN
NN
NN
NN
NN

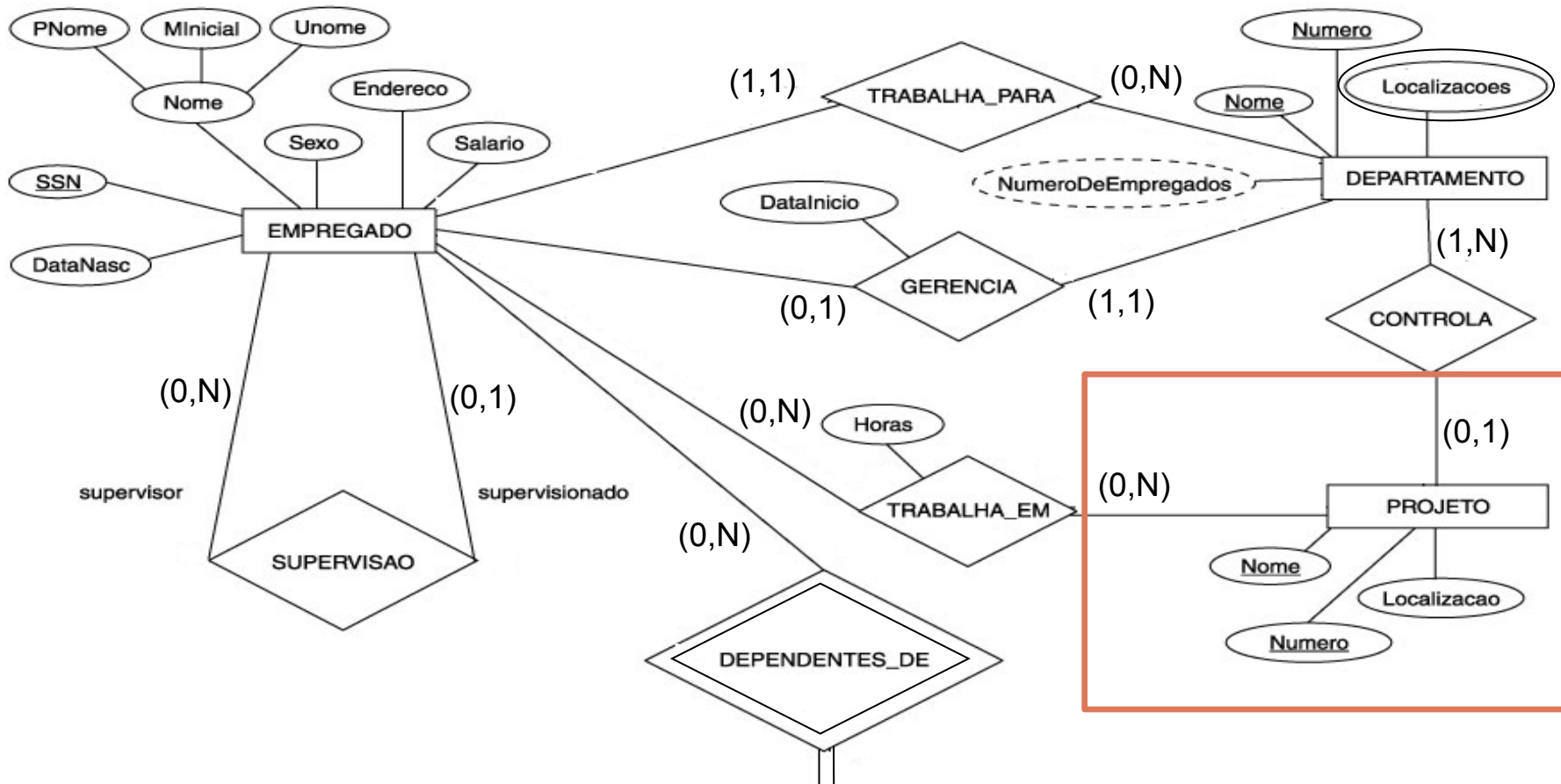








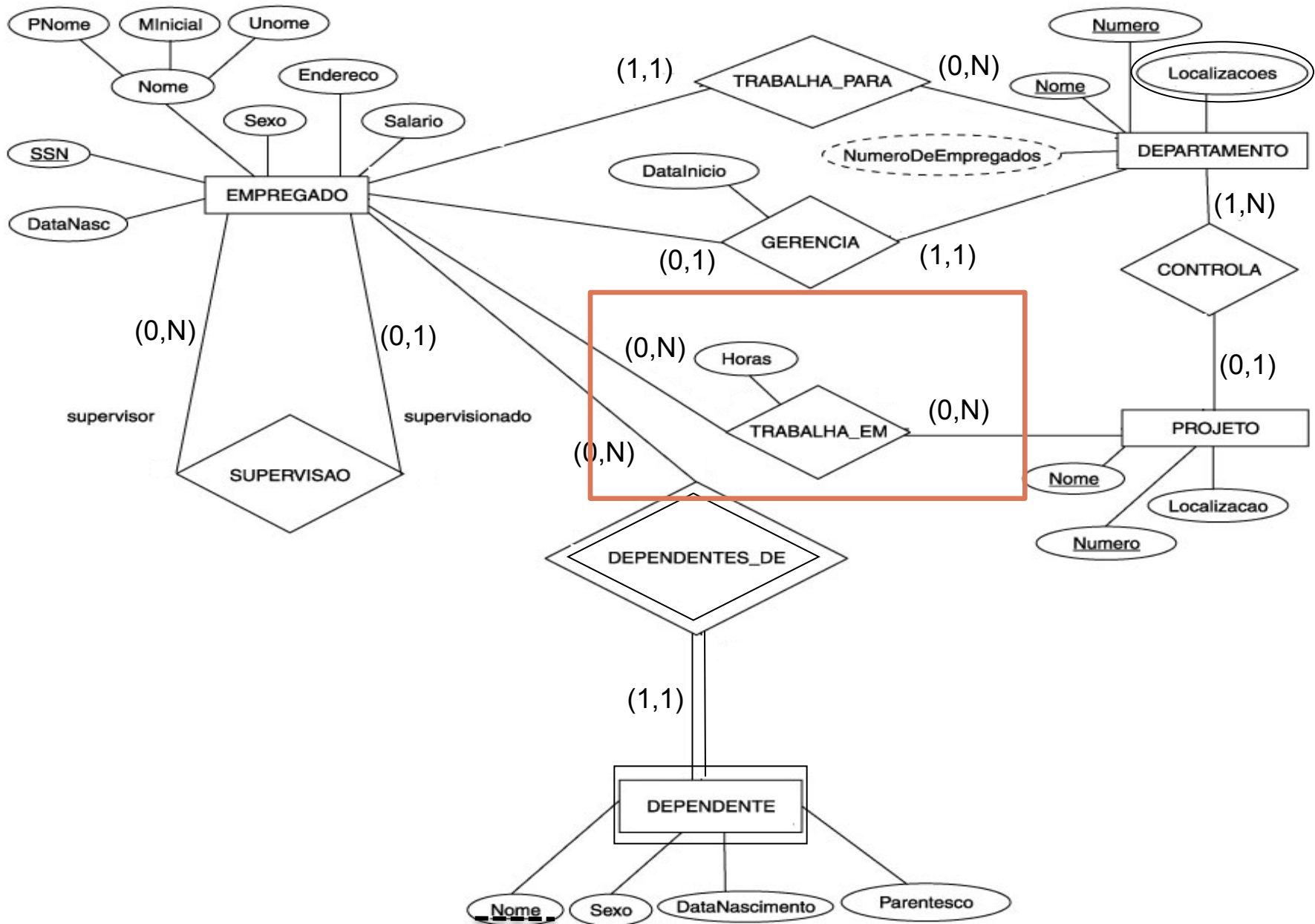


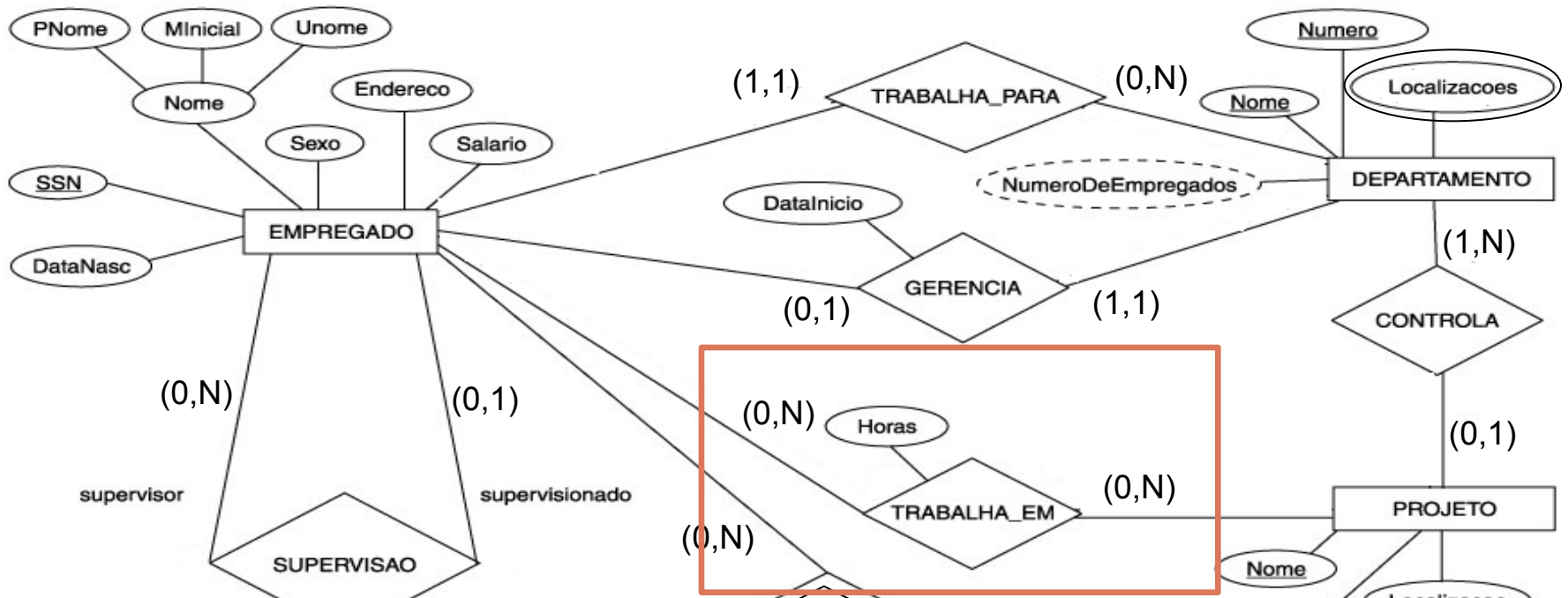


## ENTIDADE

PROJETO (Numero, Nome, Localizacao)

1      NN      NN





## RELACIONAMENTO BINÁRIO N:M

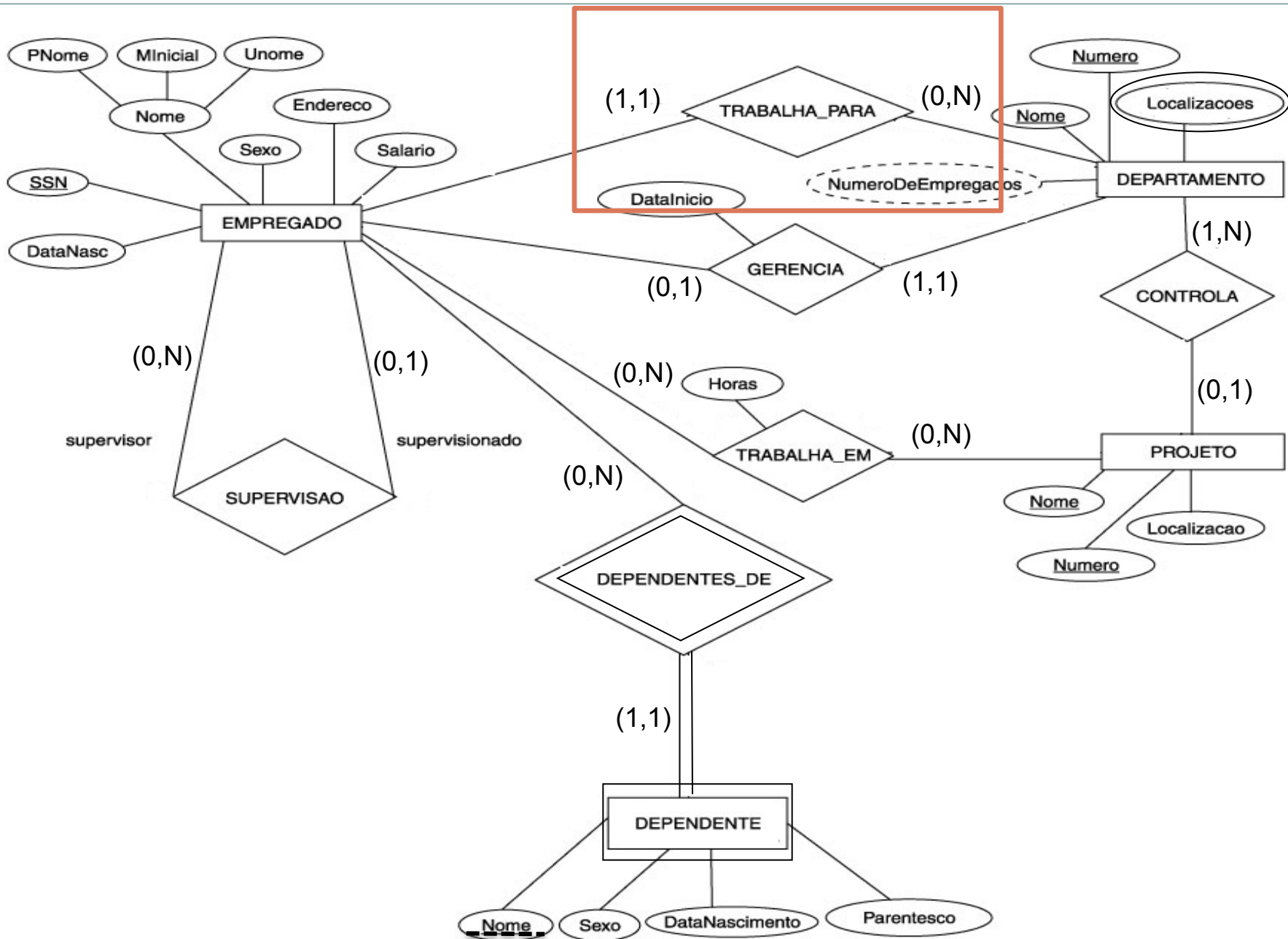
EMPREGADO (SSN, Pnome, MInicial, Unome, DataNasc, Sexo, Endereco, Salario)  
                   NN                  NN                  NN                  NN                  NN

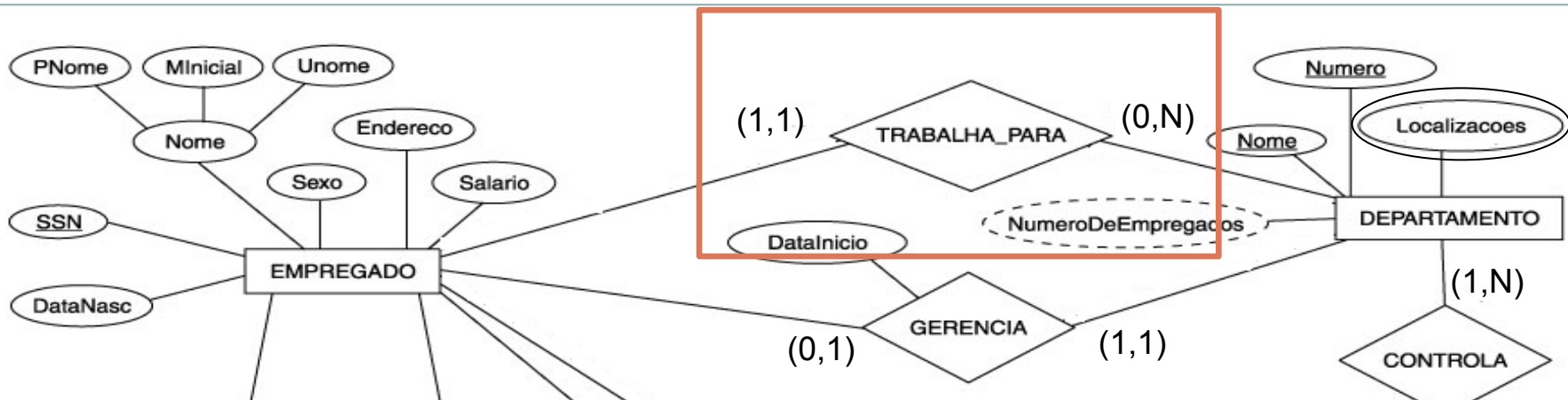
PROJETO (Numero, Nome, Localizacao)  
           1          NN          NN

TRABALHA-EM (SSN, Numero-Proj, Horas)  
                   NN                  NN

SSN referencia EMPREGADO

Numero-Proj referencia PROJETO

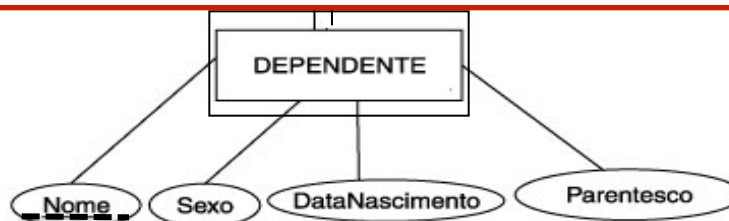




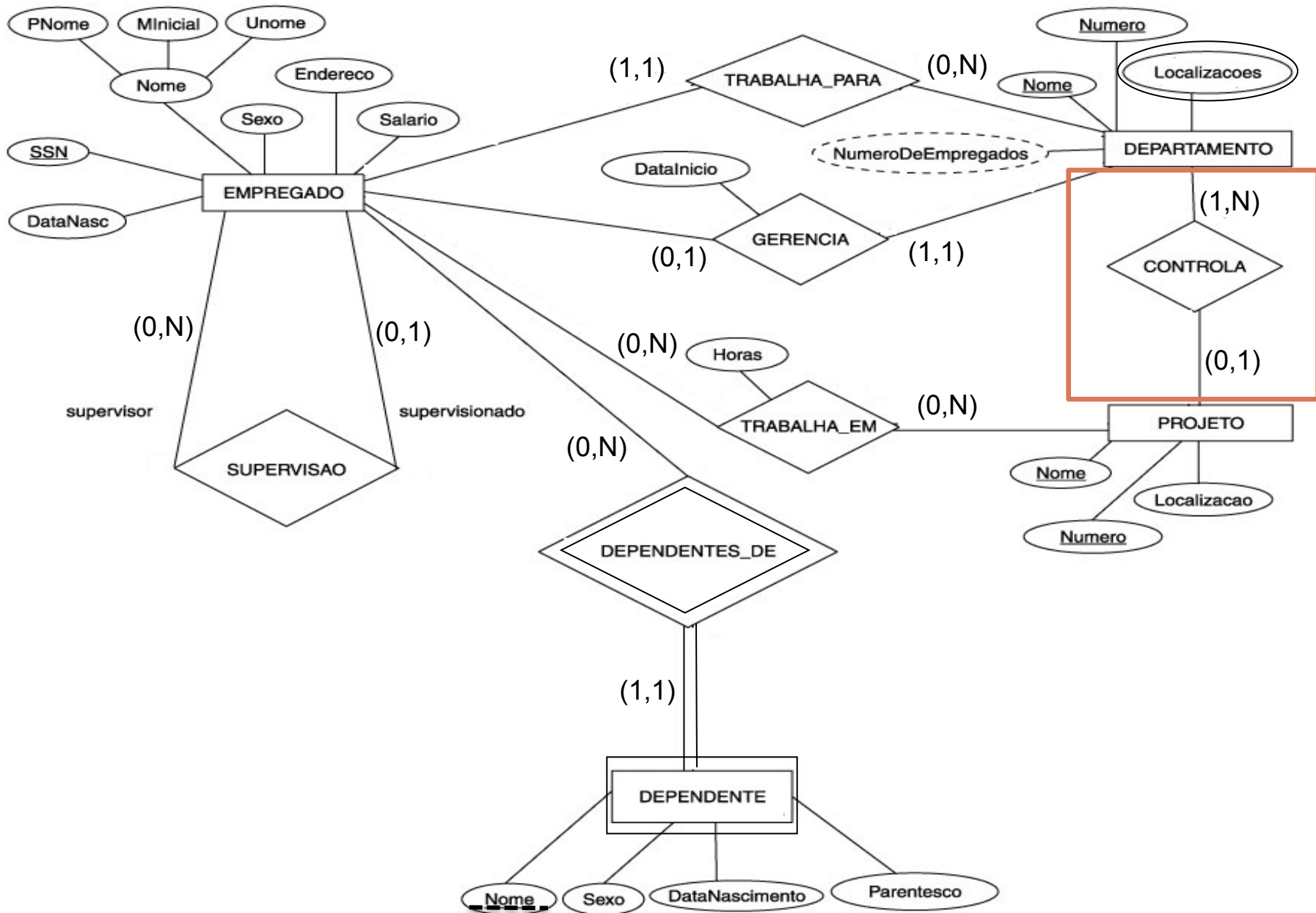
## RELACIONAMENTO BINÁRIO N:1 (com colapsamento)

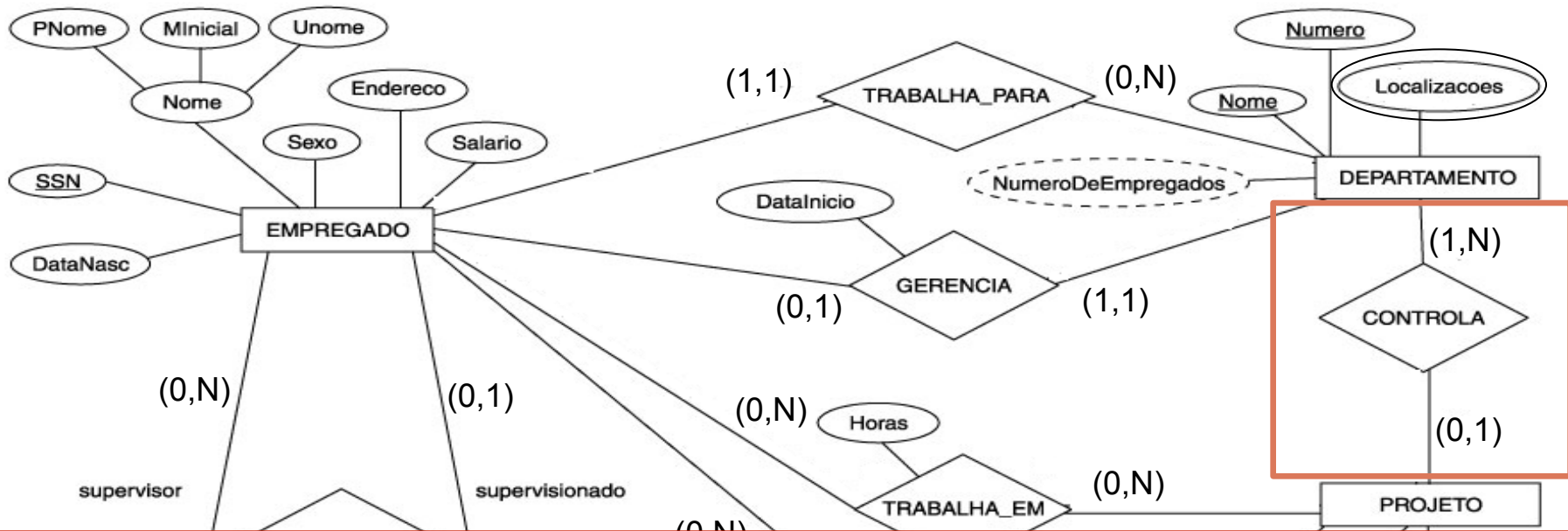
DEPARTAMENTO (Numero, Nome, NumeroEmp)  
                   1       NN       NN

EMPREGADO (SSN, Pnome, Minicial, Unome, ..., Salario, Numero-Dept)  
                   NN       NN       NN       NN  
                 Numero-Dept referencia DEPARTAMENTO









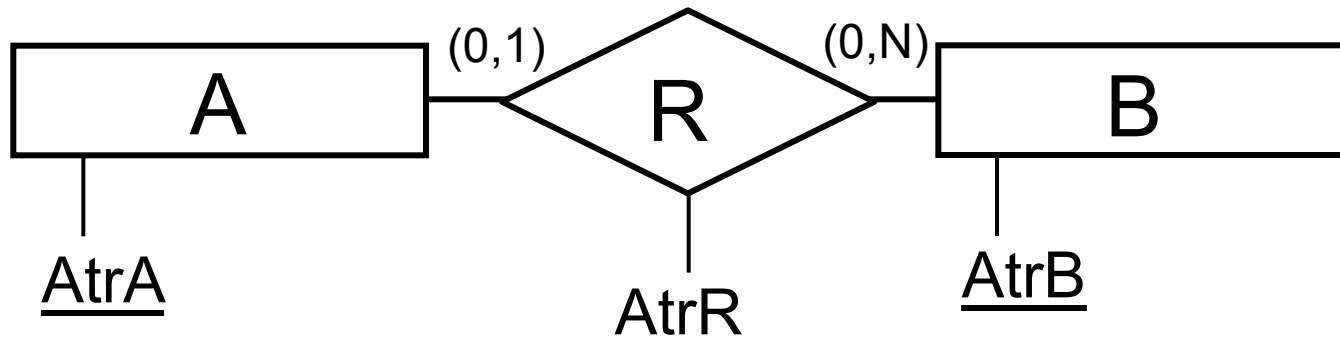
## RELACIONAMENTO BINÁRIO N:1 (com colapsamento)

DEPARTAMENTO (Numero, Nome, NumeroEmp)  
                   1       NN       NN

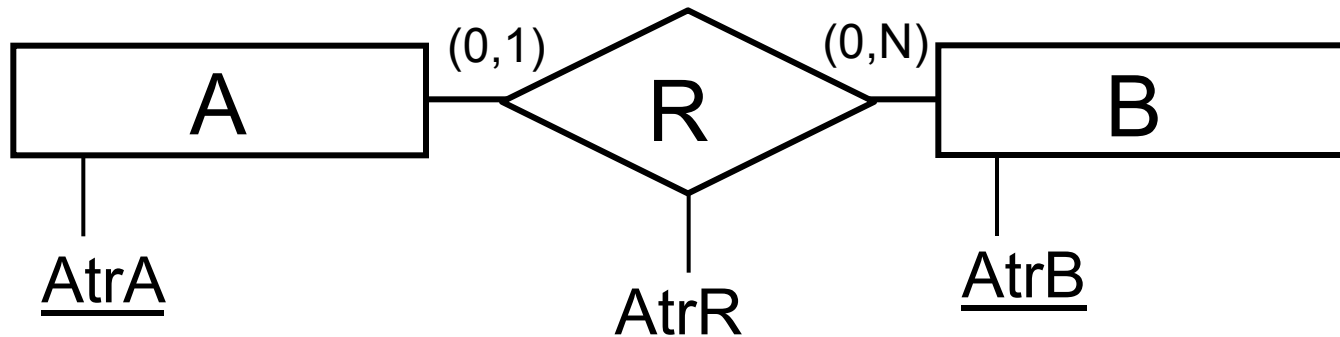
PROJETO (Numero, Nome, Localizacao, Numero-Dept)  
           1       NN       NN  
           Numero-Dept referencia DEPARTAMENTO

RS: Todo departamento deverá ter pelo menos um projeto.





Suponha que apenas 1% das instâncias de  $A$  participem do relacionamento  $R$ .



Suponha que apenas 1% das instâncias de A participem do relacionamento R.

### RELACIONAMENTO BINÁRIO N:1 (sem colapsamento)

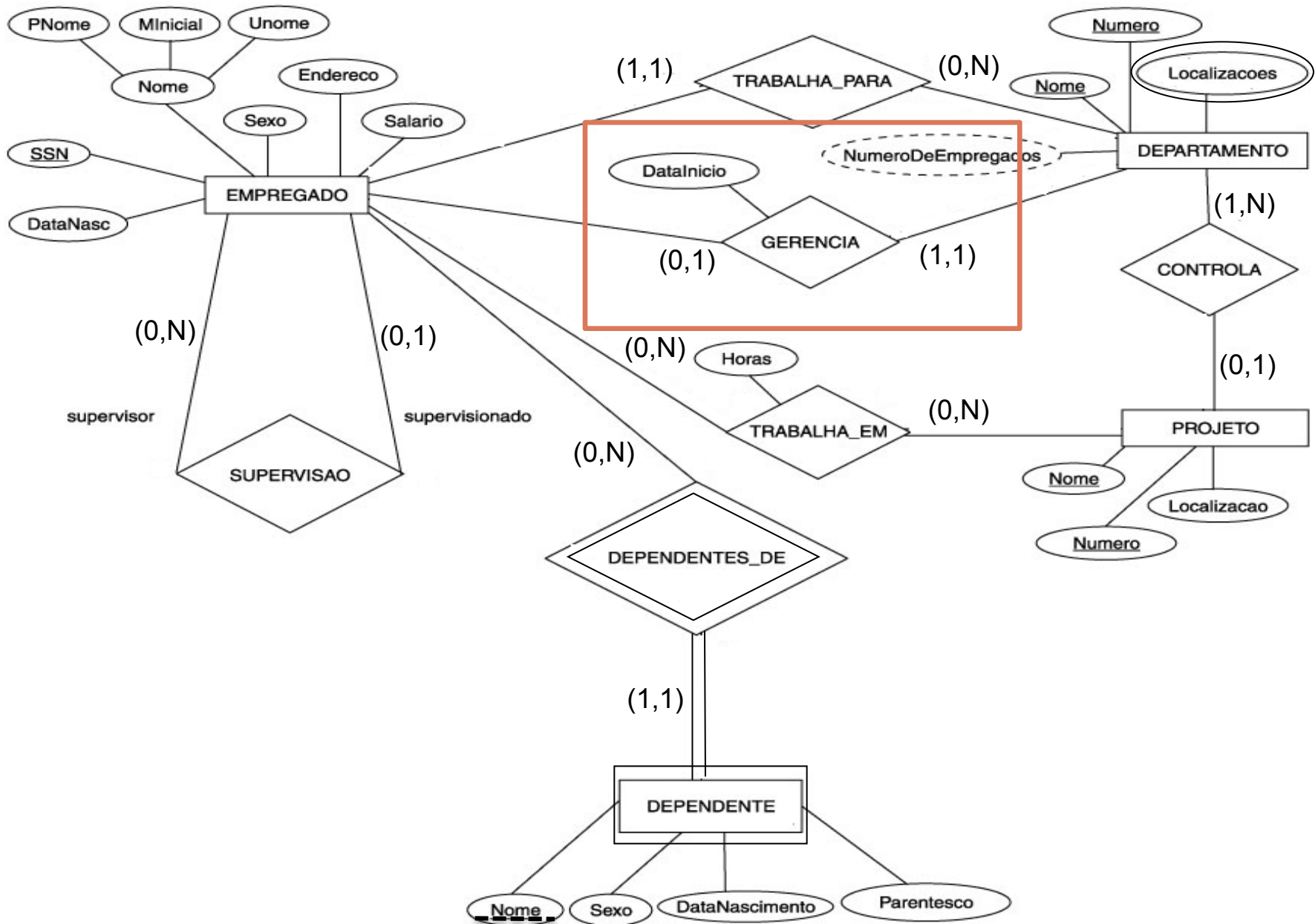
A (AtrA, ...)  
NN

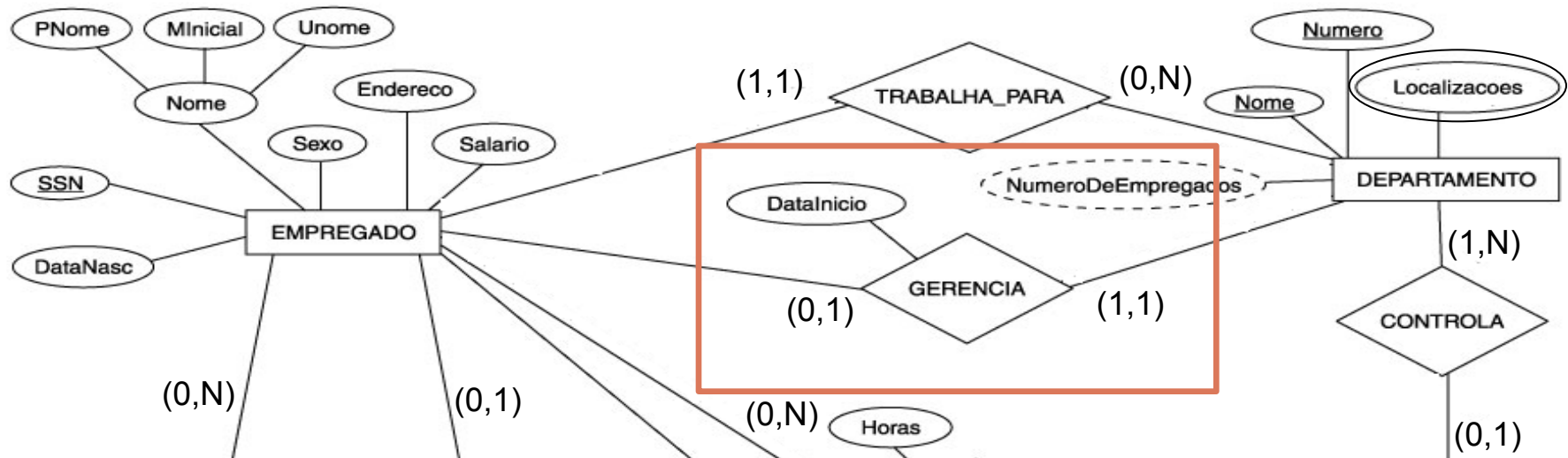
B (AtrB, ...)  
NN

R (AtrA, AtrB, AtrR)  
NN NN

AtrA referencia A

AtrB referencia B

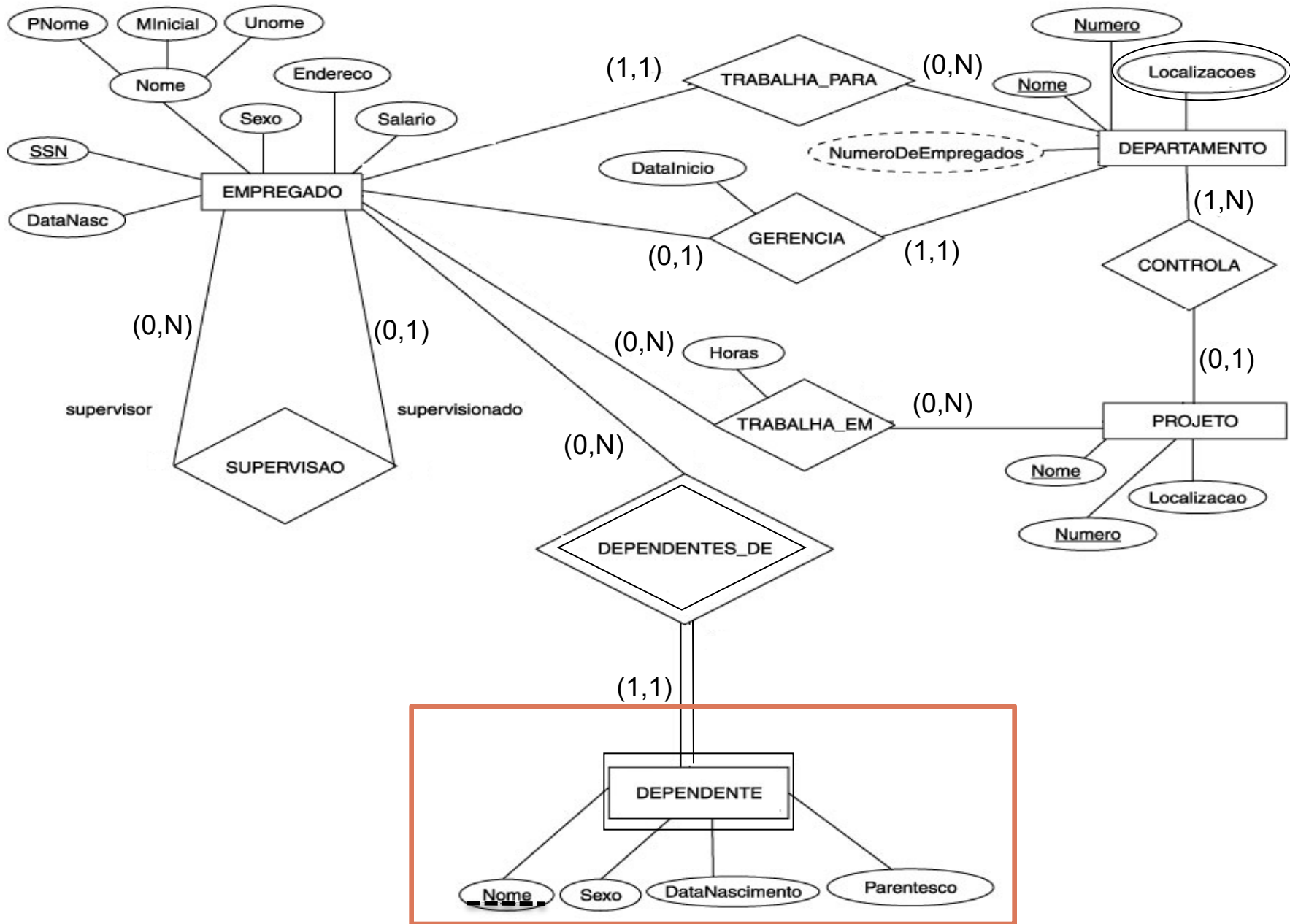


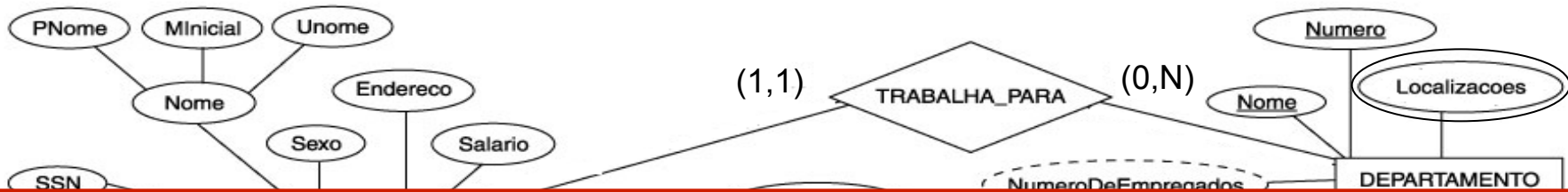


## RELACIONAMENTO BINÁRIO 1:1 (com colapsamento)

EMPREGADO (SSN, Pnome, Minicial, Unome, ..., Salario, Numero-Dept)  
                   NN          NN                  NN                  NN  
                   Numero-Dept referencia DEPARTAMENTO

DEPARTAMENTO (Numero, Nome, NumeroEmp, Gerente, DataInicio)  
                   1          NN          NN                  NN  
                   Gerente referencia EMPREGADO

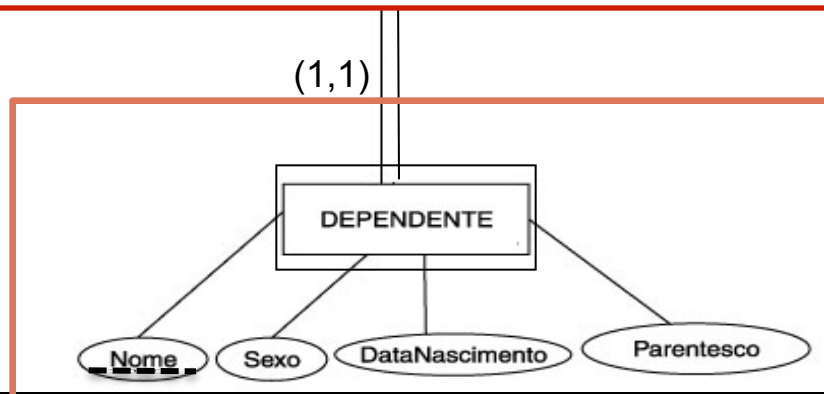


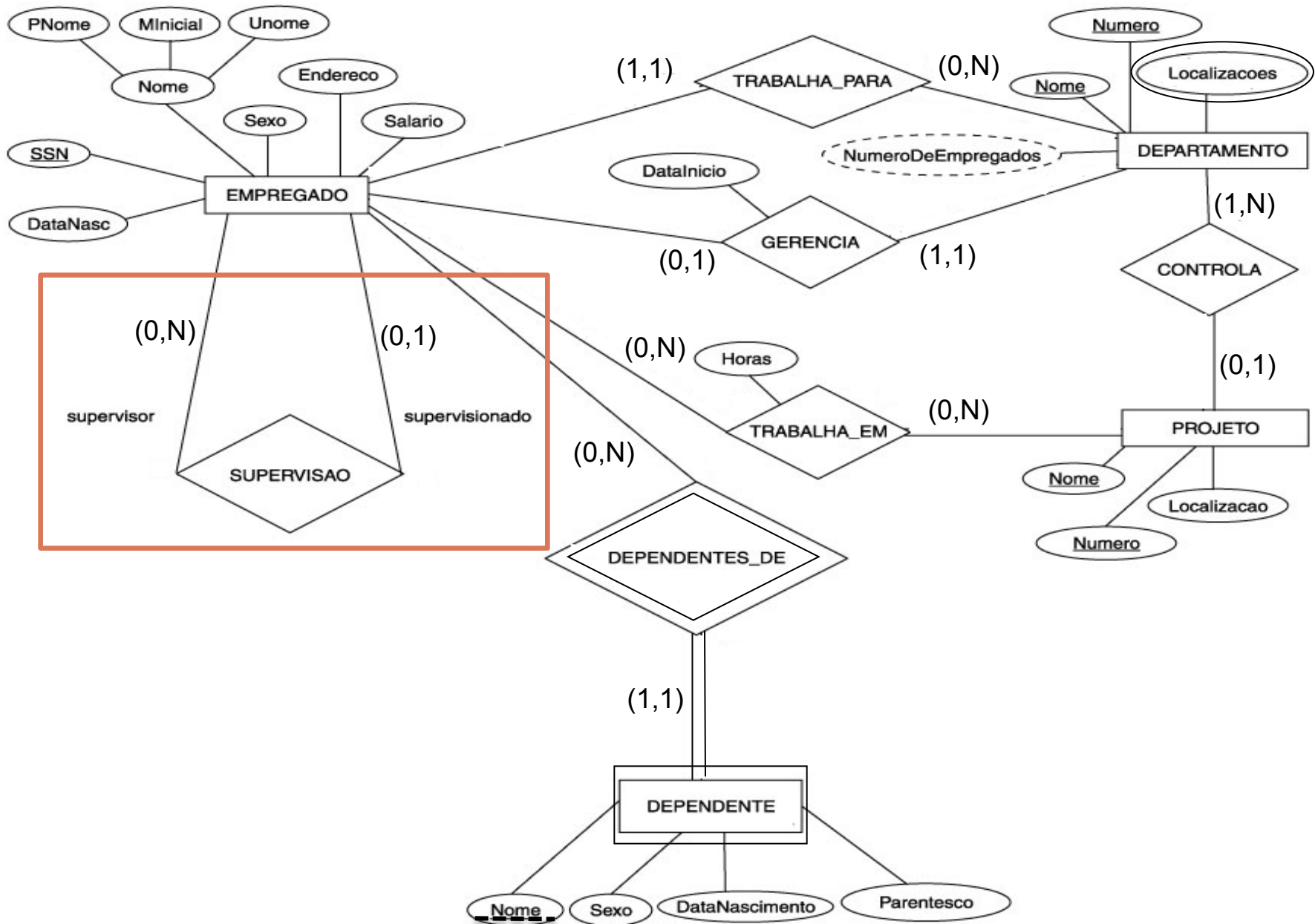


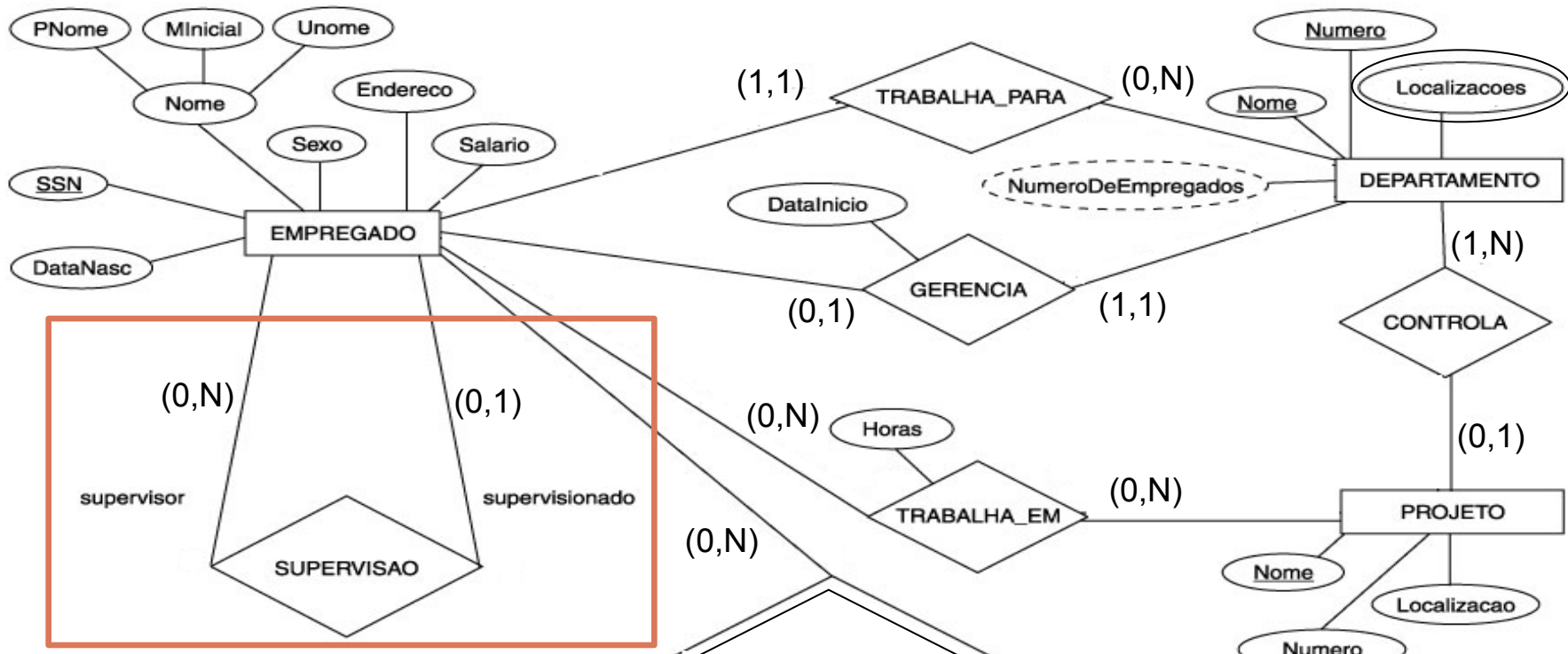
## ENTIDADE FRACA

EMPREGADO (SSN, Pnome, Minicial, Unome, ..., Salario, Numero-Dept)  
                   NN          NN                  NN                  NN  
                   Numero-Dept referencia DEPARTAMENTO

DEPENDENTE (SSN, Nome, Sexo, DataNascimento, Parentesco)  
                   NN          NN  
                   SSN referencia EMPREGADO



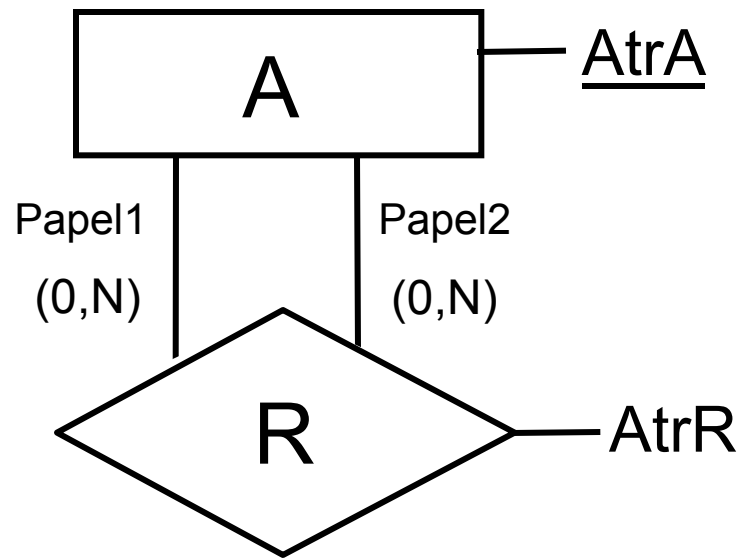


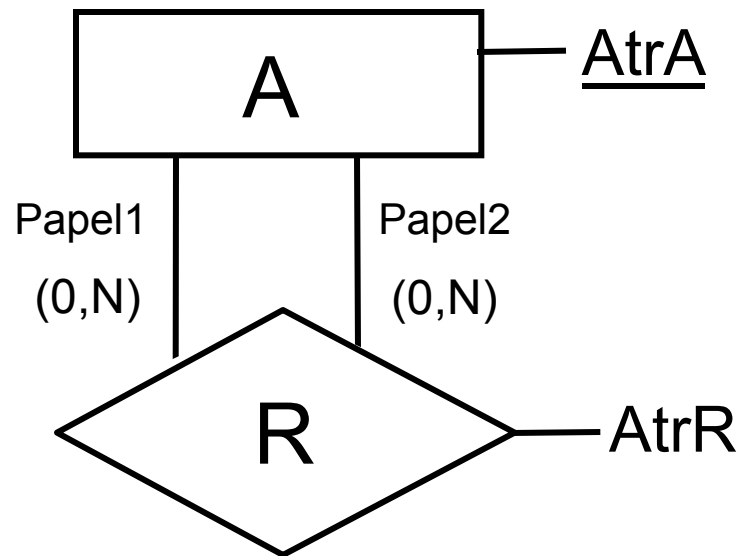


## AUTO-RELACIONAMENTO BINÁRIO N:1 (com colapsamento)

EMPREGADO (SSN, Pnome, Minicial, Unome, ..., Numero-Dept, Supervisor)  
                   NN          NN                  NN                  NN  
 Numero-Dept referencia DEPARTAMENTO  
 Supervisor referencia EMPREGADO







### AUTO-RELACIONAMENTO BINÁRIO N:M

A (AtrA, ...)  
NN

R (Papel1, Papel2, AtrR)  
NN NN

Papel1 referencia A

Papel2 referencia A