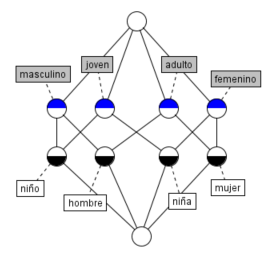
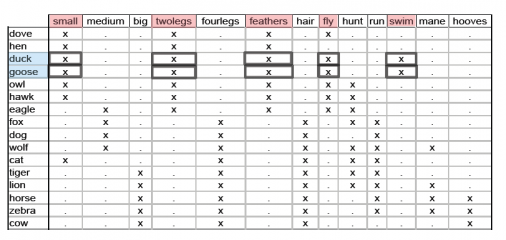
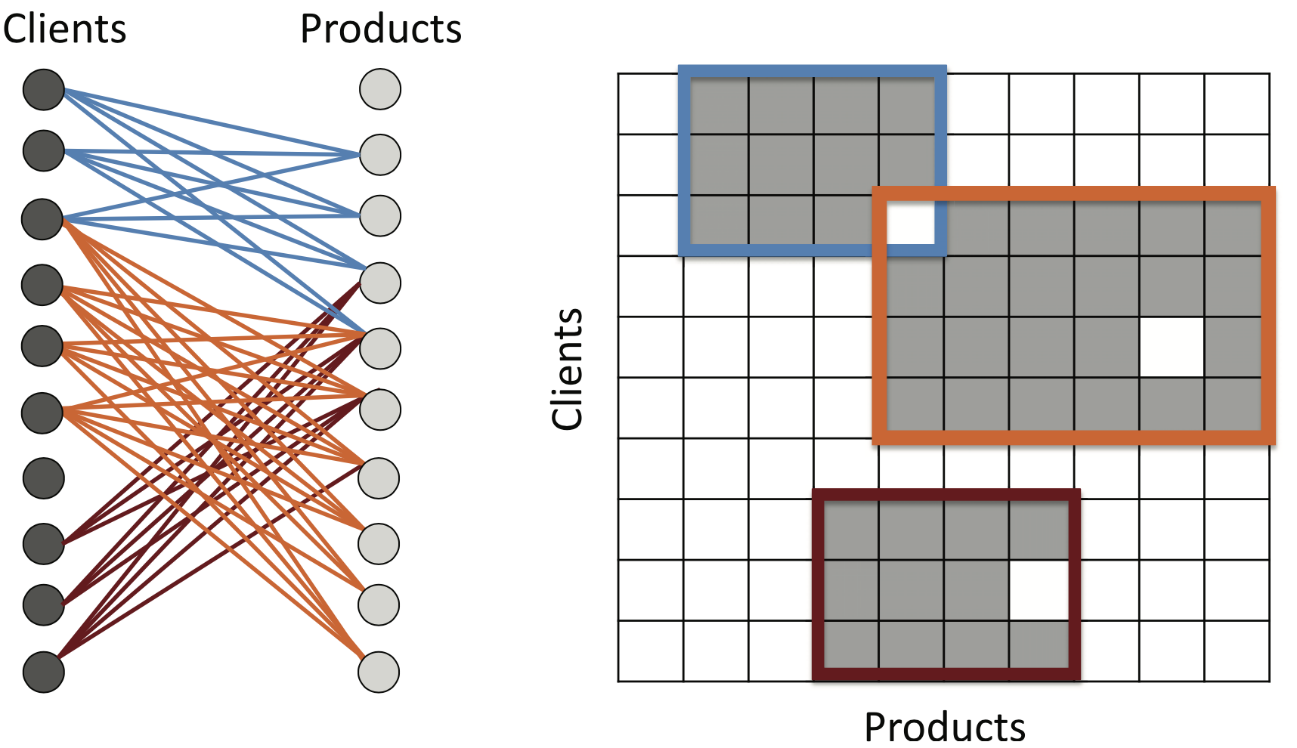
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | adulto | joven | femenino | masculino |
| niño |  | X |  | X |
| niña |  | X | X |  |
| hombre | X |  |  | X |
| mujer | X |  | X |  |









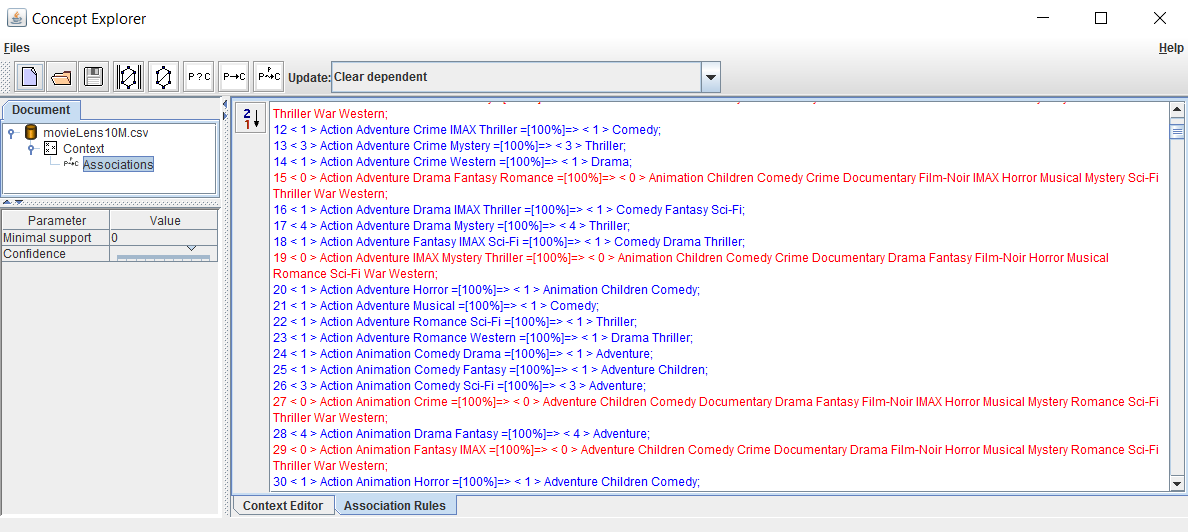
Clientes

Productos

Clientes

Productos



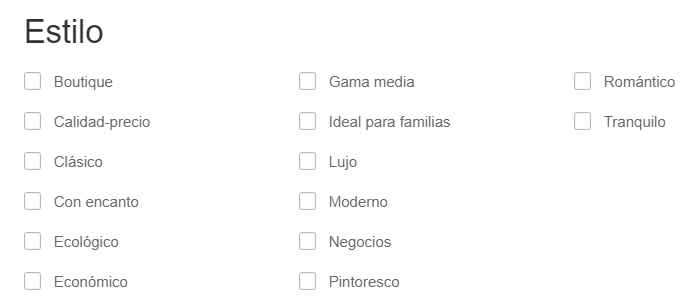
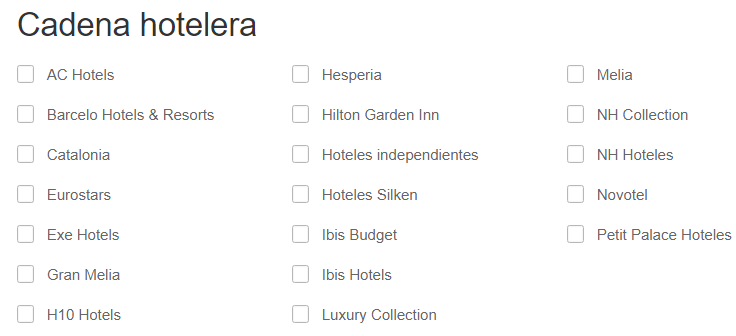
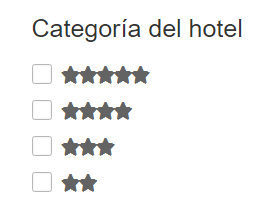
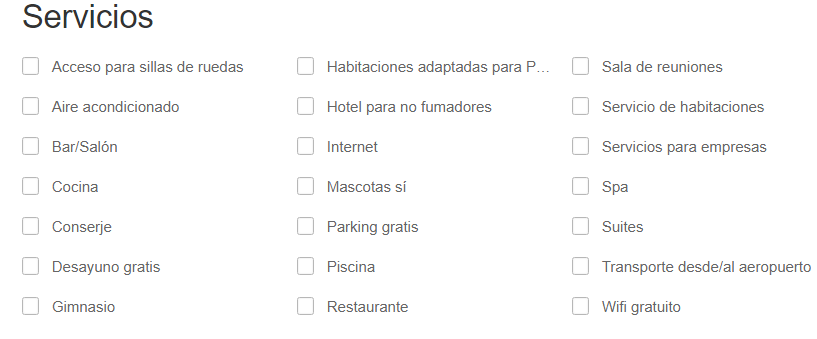


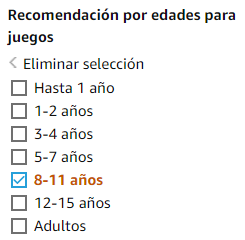
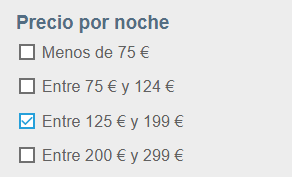
Calcular asociaciones

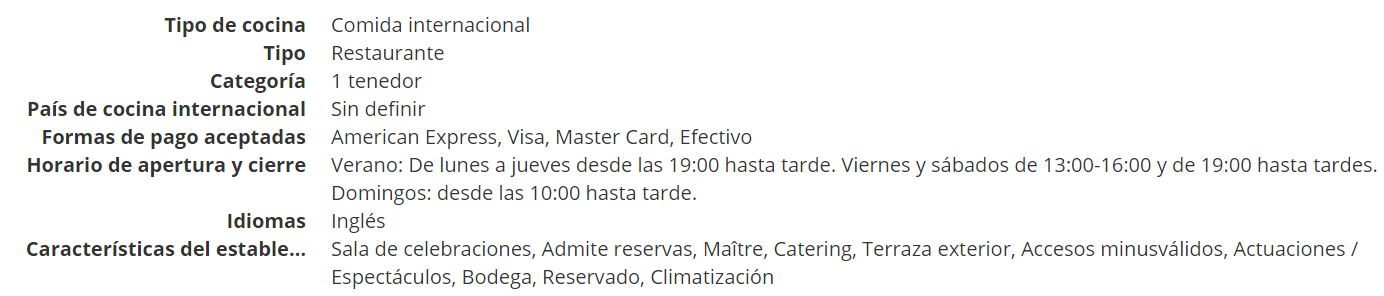


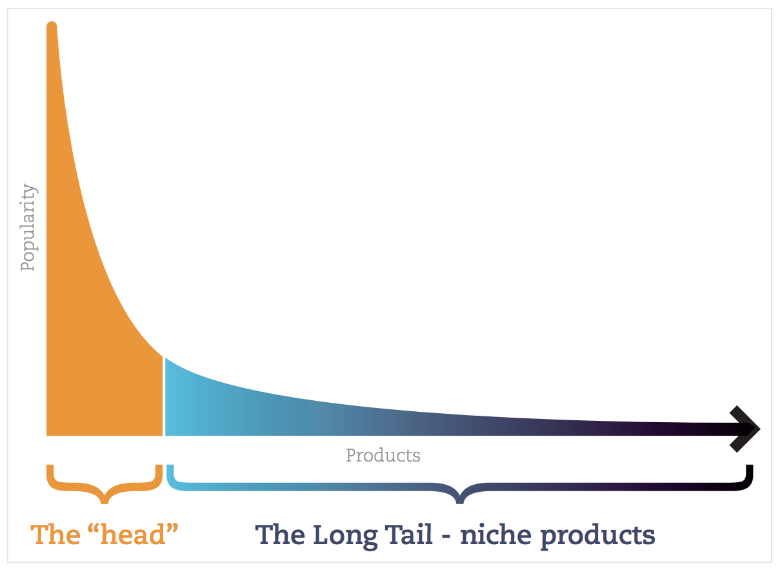
b)

a)









Productos en el *long-tail*

Populares

Explicaciones Híbridas 3D

Explicaciones Híbridas 2D

Explicaciones 1D

Human/Feature

Feature/Item

Human/Feature/Item

Explicaciones

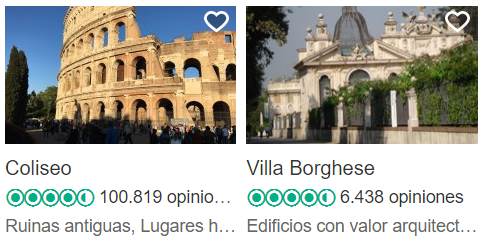
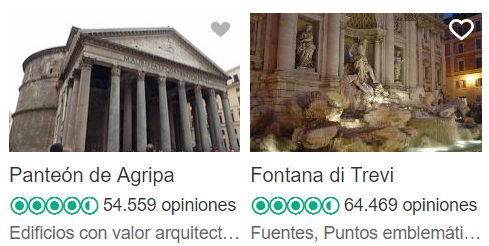
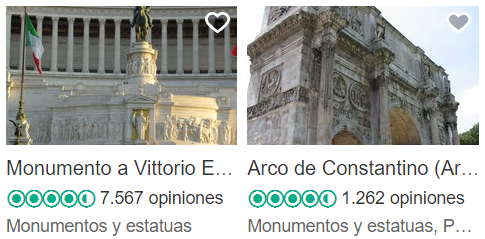
Human/Item

Human

Item

Feature





Diseño, Implementación,

Pruebas, Documentación



Requisitos

Nuevos objetivos

Propuesta de solución

Inicio

Análisis de iteración

a)

b)

c)

pasos

pasos

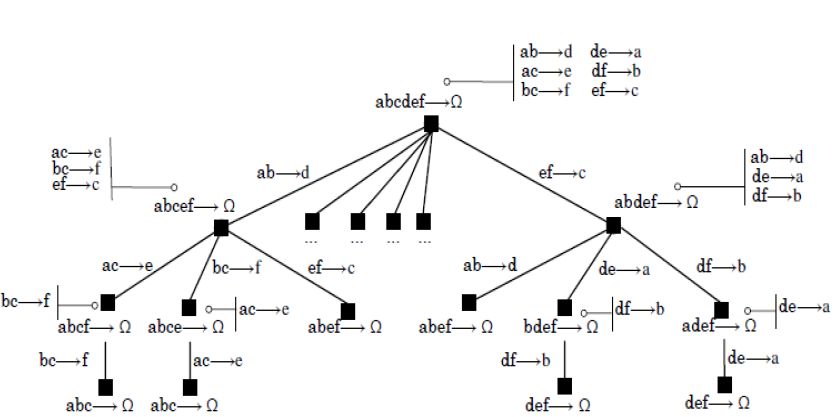
pasos

paso

a)

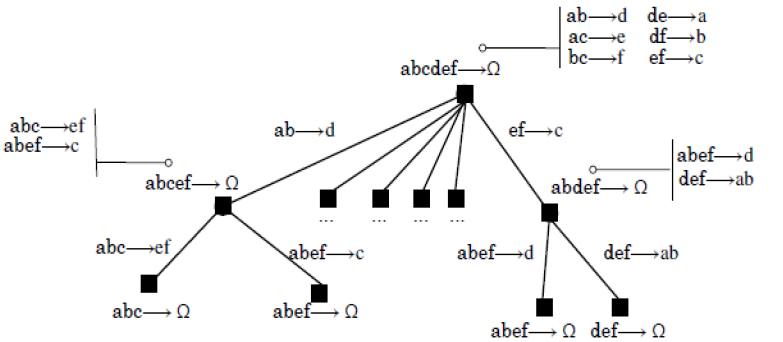
b)

c)



Método . Tableaux de 3 niveles. 37 nodos. 18 hojas.





Método SST. Tableaux de 2 niveles. 19 nodos. 12 hojas.

Problema original

Etapa división

Subproblemas

Claves

Etapa resolución

Subproblema

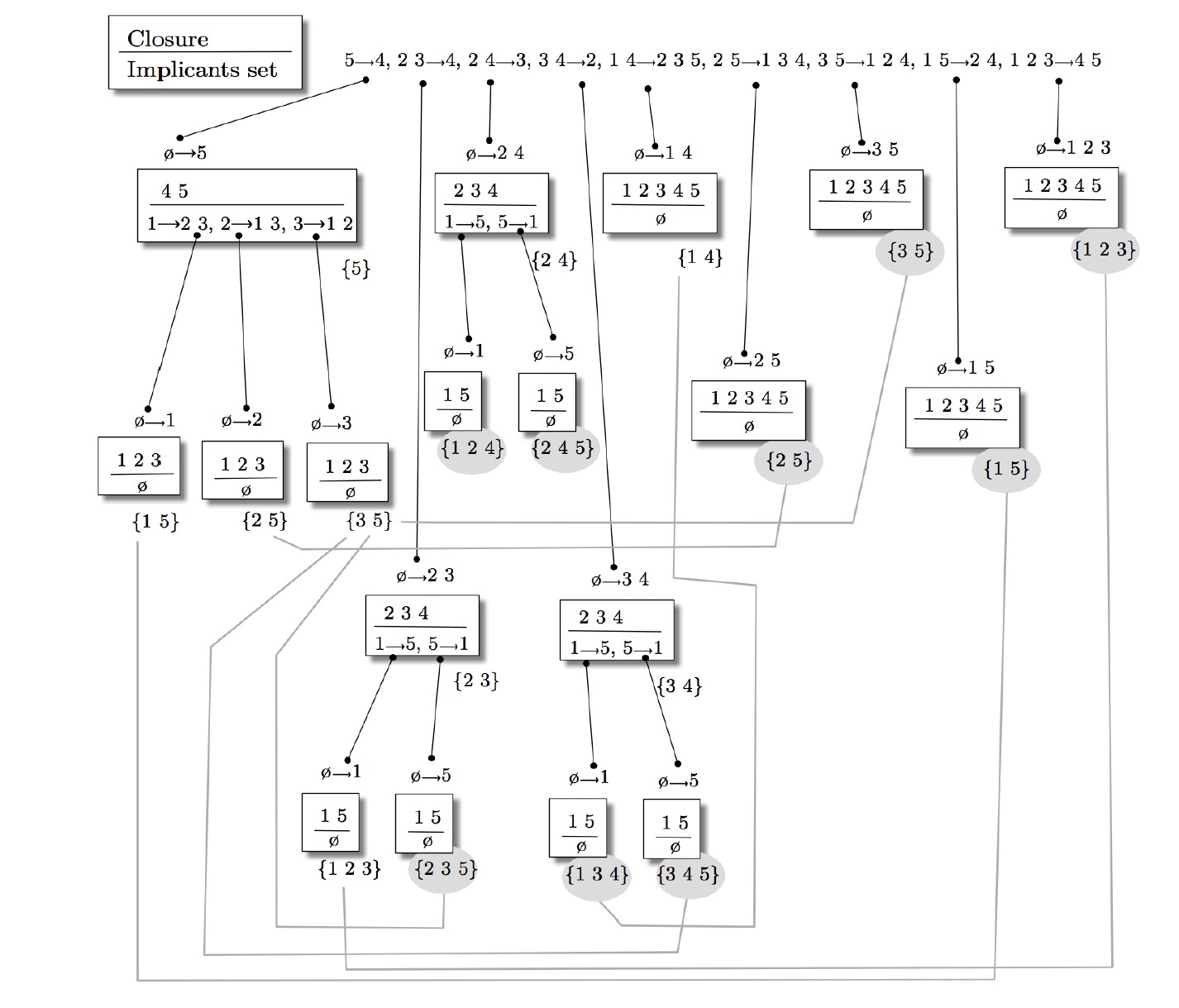
a)

a)

b)

Cierre

Implicaciones



Implicaciones

Teoría y Conceptos

Cap. 1 – Introducción

Cap. 2 – Preliminares

Cap. 3 – Claves Minimales

F. Benito-Picazo et al. *Reducing the search space by closure and simplification paradigms*.

Cap. 4 – Generadores Minimales

F. Benito-Picazo et al. *Reducing the search space by closure and simplification paradigms*.

Cap. 5 – Sistemas de Recomendación

F. Benito-Picazo et al. *Enhancing the conversational process by using a logical closure operator in phenotypes implications*.

Cap. 6 – Conclusiones y Trabajos Futuros

Aplicaciones y Publicaciones



F. Benito-Picazo et al. *Closed sets enumeration: a logical approach*.

F. Benito-Picazo et al. *Conversational recommendation to avoid the cold-start problem.*

F. Benito-Picazo et al. *Keys for the fusion of heterogeneous information*.

F. Benito-Picazo et al. *Increasing the Efficiency of Minimal Key Enumeration Methods.*

*by Means of Parallelism*.

Anexos

Congresos

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Supercomputación

***[Benito-Picazo et al. 2017]***

***[Benito-Picazo et al. 2018]***

***[Benito-Picazo et al. 2016]***

[Armstrong 74]

[Mora et al. 2012]

[Wastl 98]

IMPLICACIONES

A 🡪 B

Cierre SLFD

Aplicaciones

[Enciso et al. 2002]

SLFD

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Supercomputación

***[Benito-Picazo et al. 2017]***

***[Benito-Picazo et al. 2018]***

***[Benito-Picazo et al. 2016]***

[Armstrong 74]



[Mora et al. 2012]

[Wastl 98]

IMPLICACIONES

A 🡪 B

Cierre SLFD

Aplicaciones

[Enciso et al. 2002]

SLFD

FCA

AB

Lógica

Razonamiento

Automático

BDR

AB

SLFD

R. Wastl

CK

SST

AB

**R. Wastl**

SLFD

CK

SST

AB

R. Wastl

**SLFD**

CK

SST

AB

R. Wastl

SLFD

CK

**SST**

**Cierre SLFD**

AB

R. Wastl

SLFD

CK

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Cierre SLFD

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R. Wastl

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R. Wastl

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GenMinGen

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MinGenPr

**MinGenPr**

MinGen

GenMinGen

**GenMinGen**

MinGenPr

MinGen

GenMinGen

MinGenPr

MinGen

**MinGenPar**

Usuario

Lógica SLFD

Implicaciones



Cierre SLFD

AB