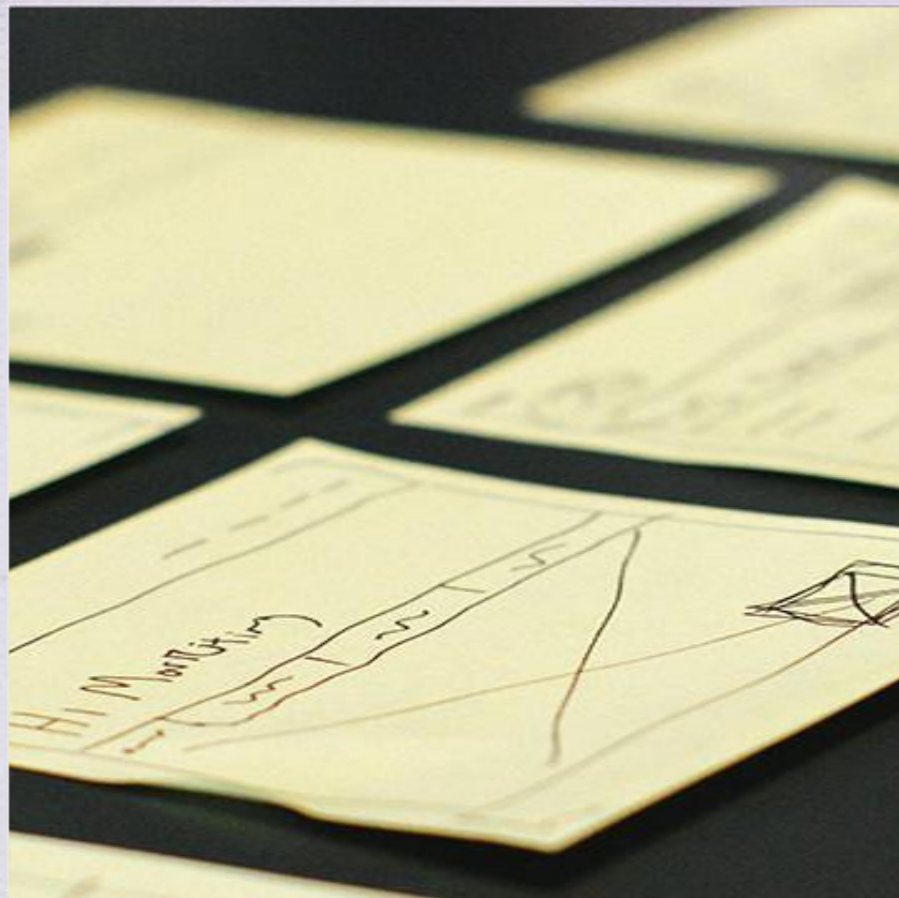


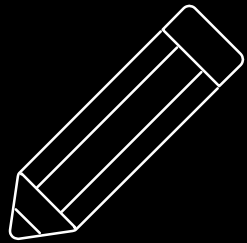
CURSO SISTEMAS DE GESTION DE LA INFORMACION



Docente : Ramon Abramo



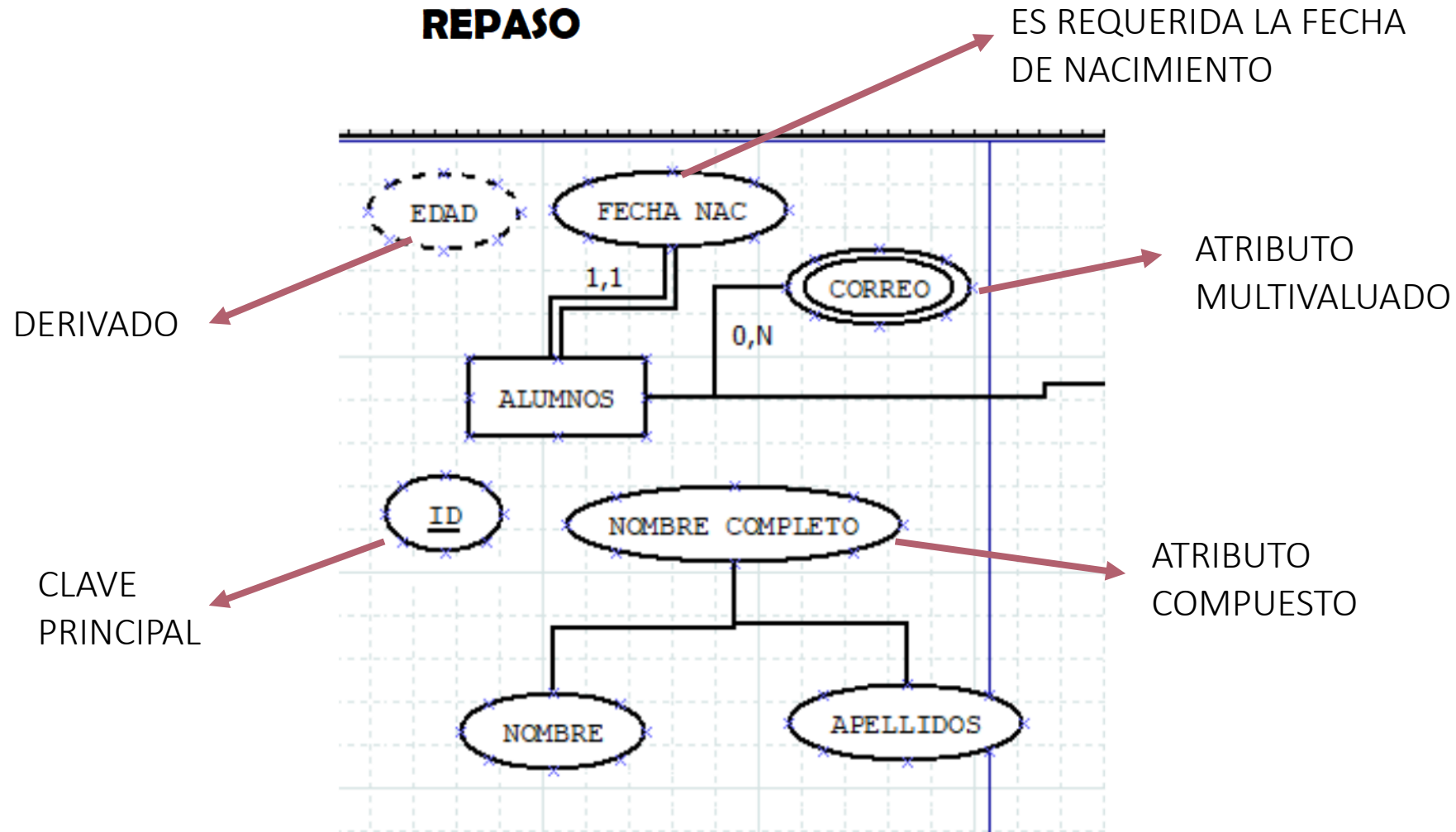
Clase 3 de Noviembre de 2020



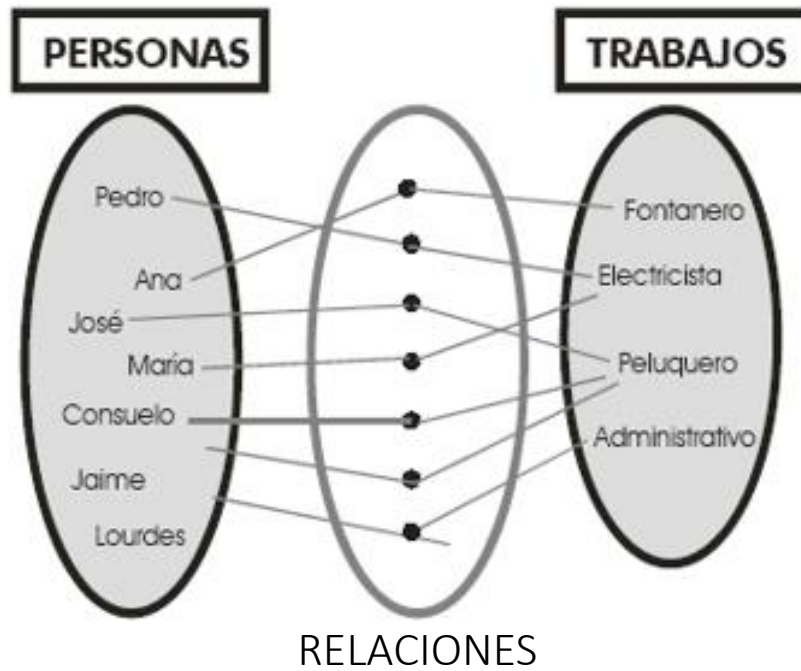
REPASO ATRIBUTOS DE UNA ENTIDAD



REPASO





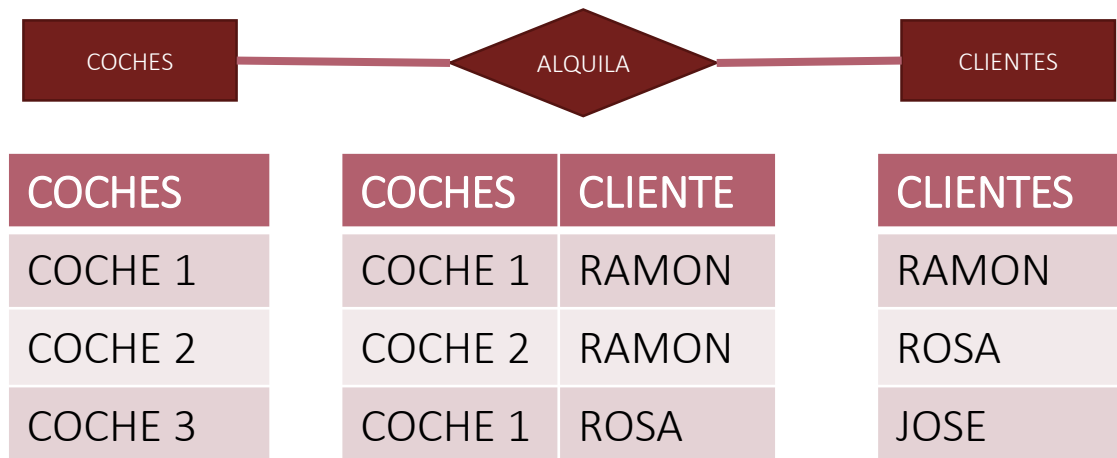


- GRADO
 - EL NUMERO DE ENTIDADES QUE RELACION
- CARDINALIDAD
 - CUANTOS ELEMENTOS DE UNA ENTIDAD ESTAN RELACIONADOS CON LA OTRA ENTIDAD

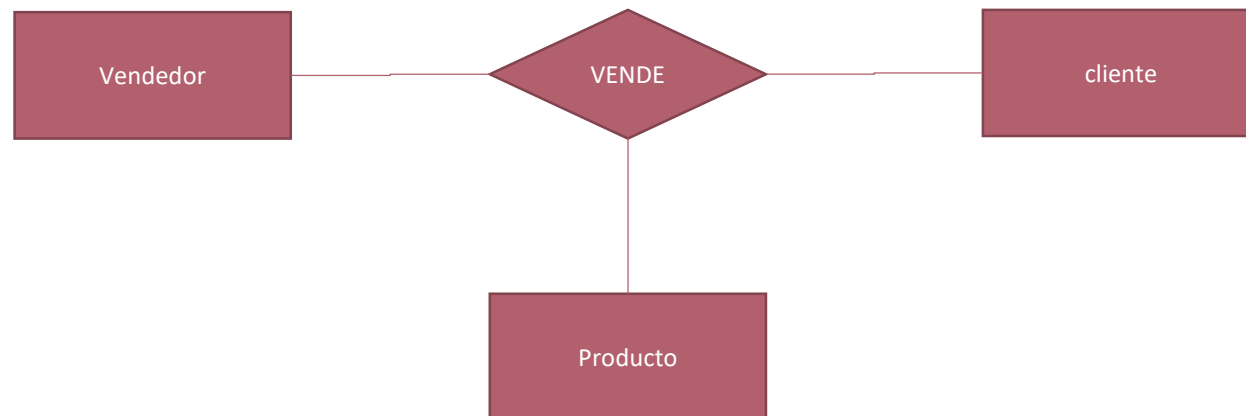
GRADO

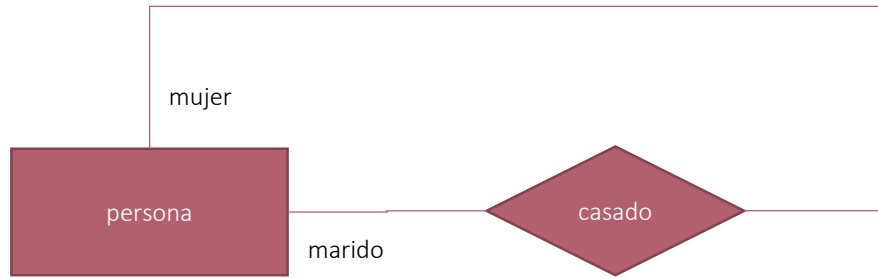
RELACIONES

- LAS QUE TRABAJAREMOS NORMALMENTE SON DE GRADO 2



	CLIENTES	PRODUCTOS
COD1	RAMON	ID1
COD1	RAMON	ID2
COD2	ROSA	ID2





PERSONAS
RAMON
ANA
JOSE
LUIS

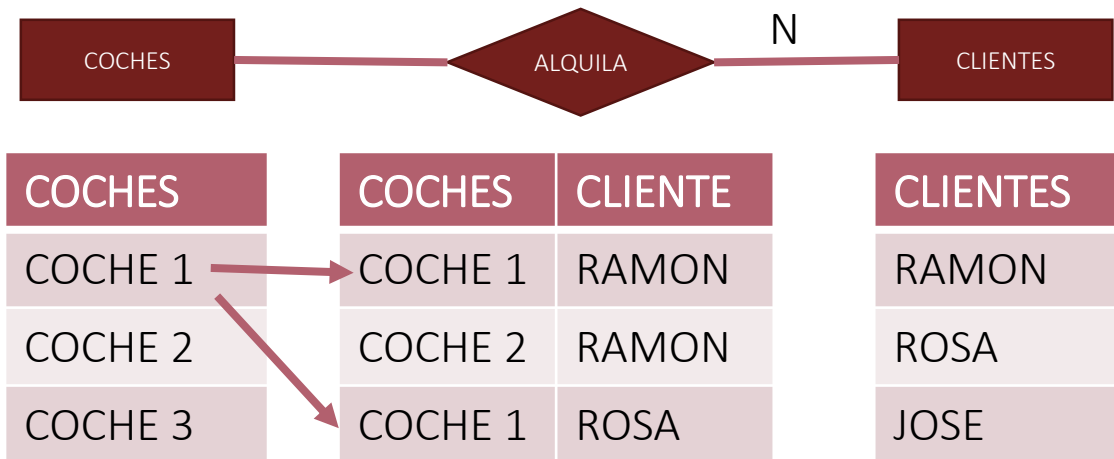
MARIDO	MUJER
RAMON	ANA
JOSE	LUIS

ESTO ES INCORRECTO



CARDINALIDADES

RELACIONES





Where to Get Maps Good maps are in general extraordinarily easy to find by gas stations are generally pretty good. Furthermore, most suppliers will furnish upon request a detailed list of exactly what they have available.

Maps of these portions of the United States from the U. S. Geological Survey, in Washington, DC. For maps of areas west of the Mississippi River, contact the U. S. Geological Survey, Federal Center, Denver, Colorado.

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Canadian maps may be secured from provincial and federal offices located in the various provinces in Ottawa, and from the Map Distribution Office, Department of Mines and Technical Surveys, which is also located in Ottawa, Ontario.

For governmental maps of Mexico, write: Dirección de Geografía y Meteorología, Tacamex, D.F., Mexico. Two private sources for foreign maps are: The National Geographical Society, 1215 16th Street, Washington, D.C.; and International Map Company, 90 West Street, New York, N.Y.

Compass maps are by far the most valuable for wilderness use, indicating as they do railways, canyons, mountains, and other such geographical features in terms of elevations. Consulting such

maps in strange country can save one an exhausting amount of unnecessary climbing, descending, and then scaling again.

Traveling by compass in a straight line, even when possible, is often not advisable. In mountains, for example, we soon learn that on more than one occasion both time and strength can be saved by circling several miles along an outcrop instead of striking a small fraction of the distance straight across a deep ravine to the next destination.

Other comment: Maps are preferable.

ORIENTATION Maps in strange country can save one an exhausting amount of unnecessary climbing, descending, and then scaling again.

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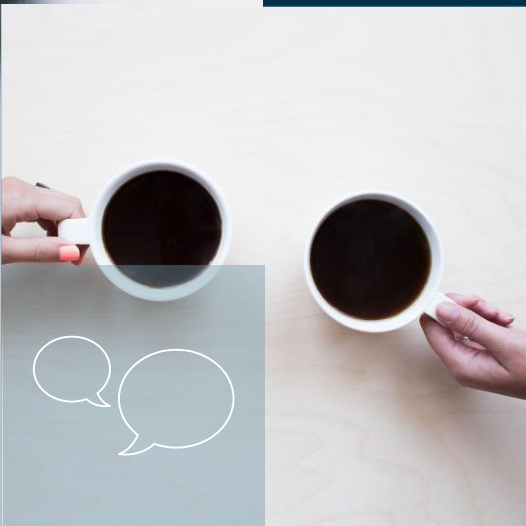
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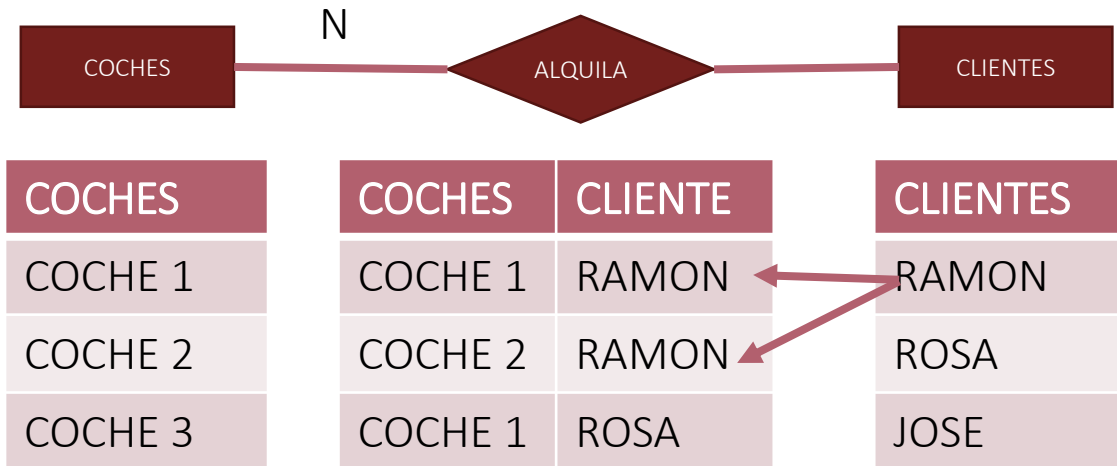
Maps in strange country can save one an exhausting amount of unnecessary climbing, descending, and then scaling again.

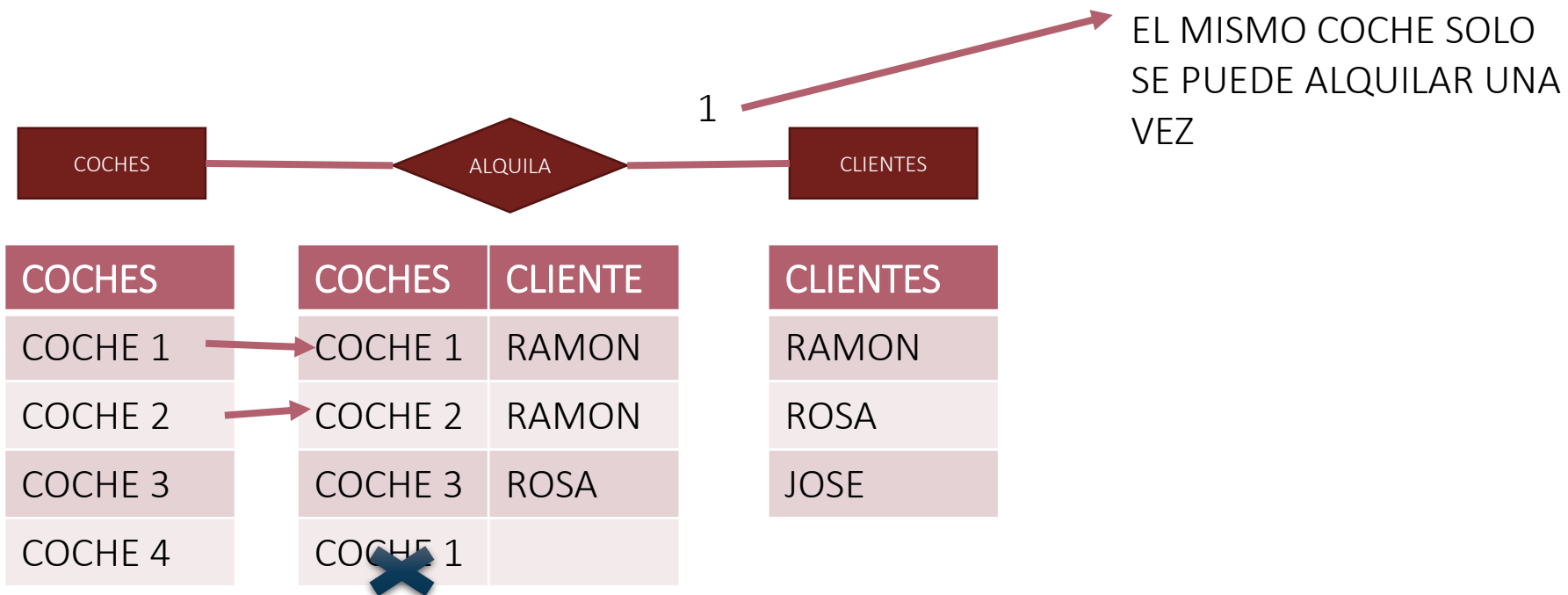
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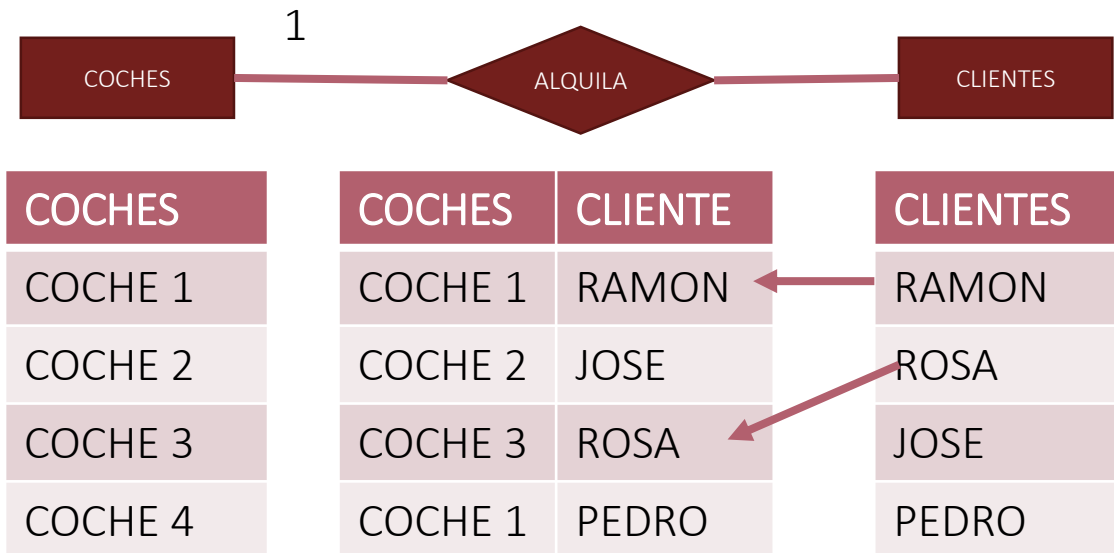
CARDINALIDADES
MAXIMAS

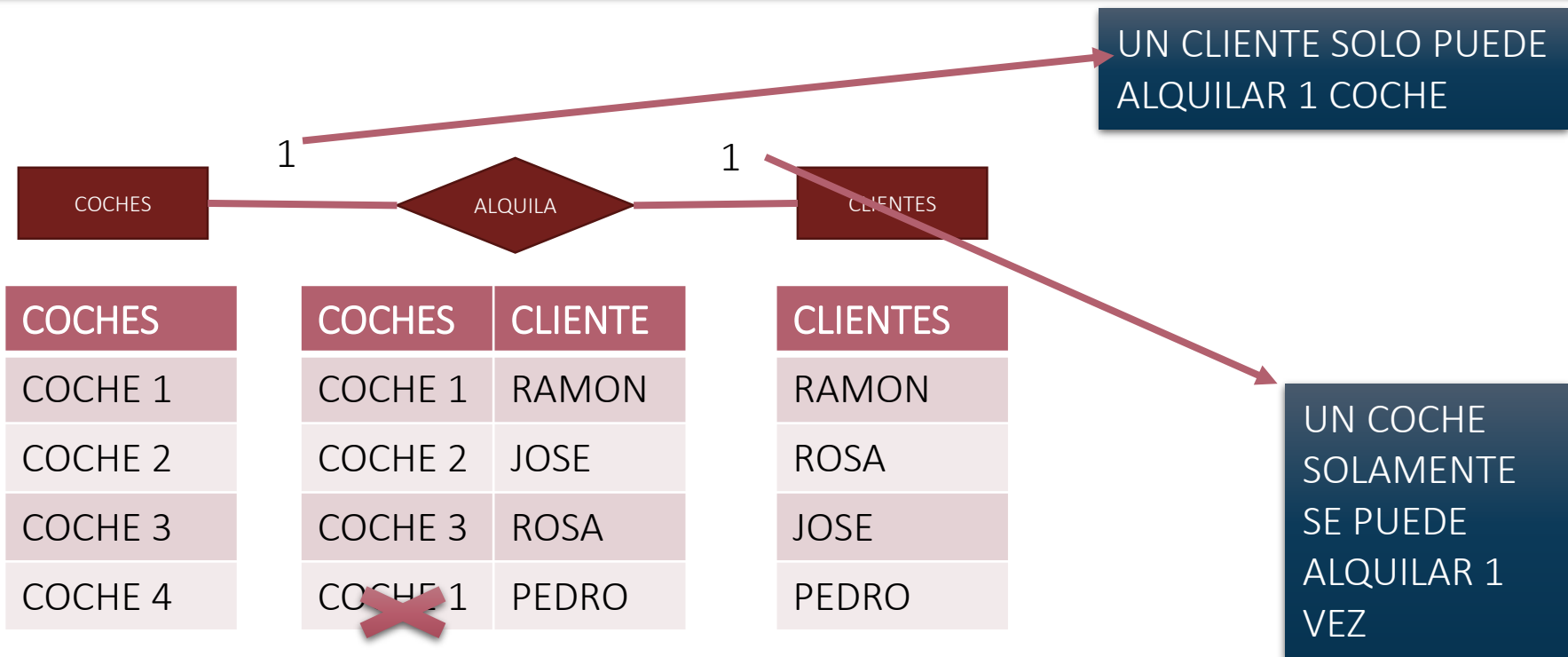


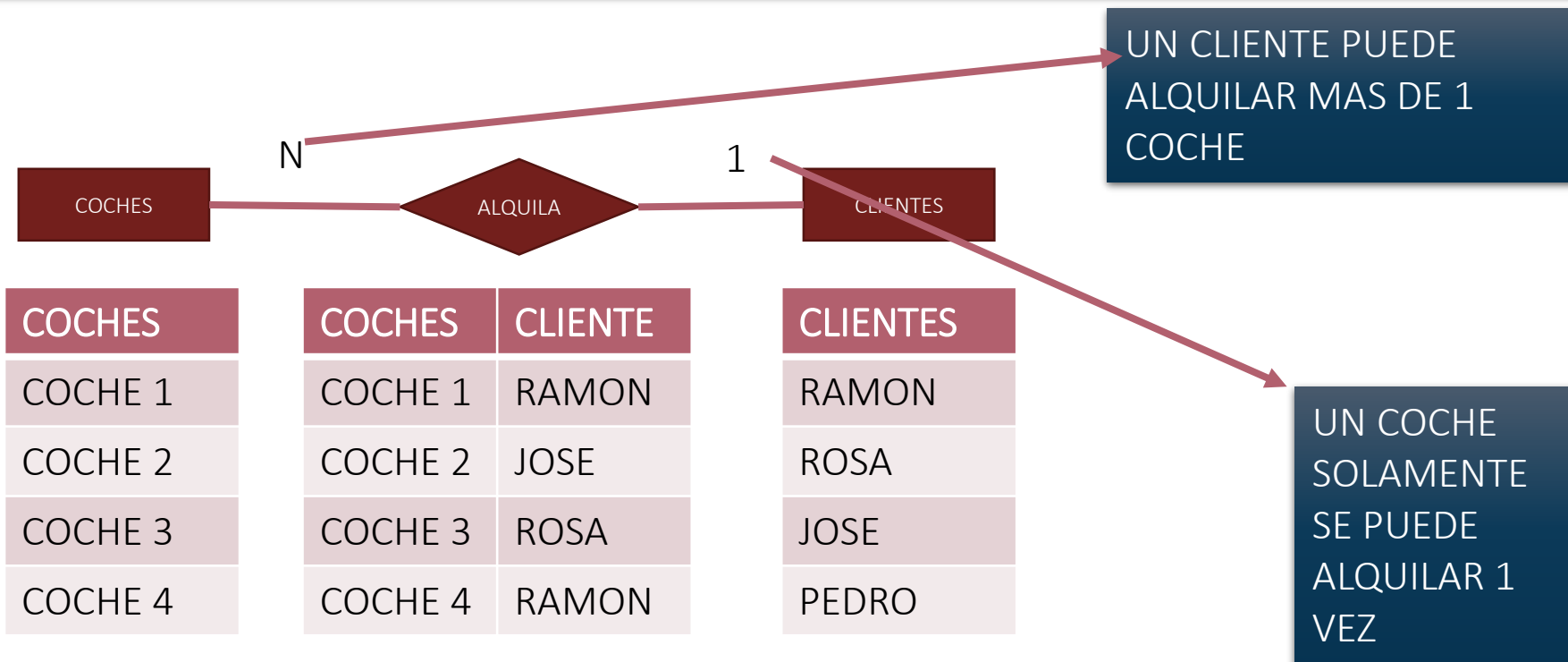




UN CLIENTE SOLO PUEDE
ALQUILAR 1 COCHE



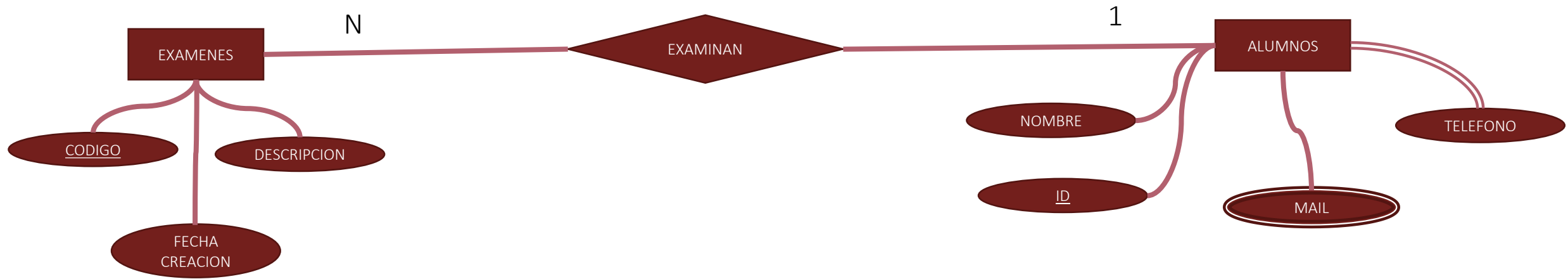


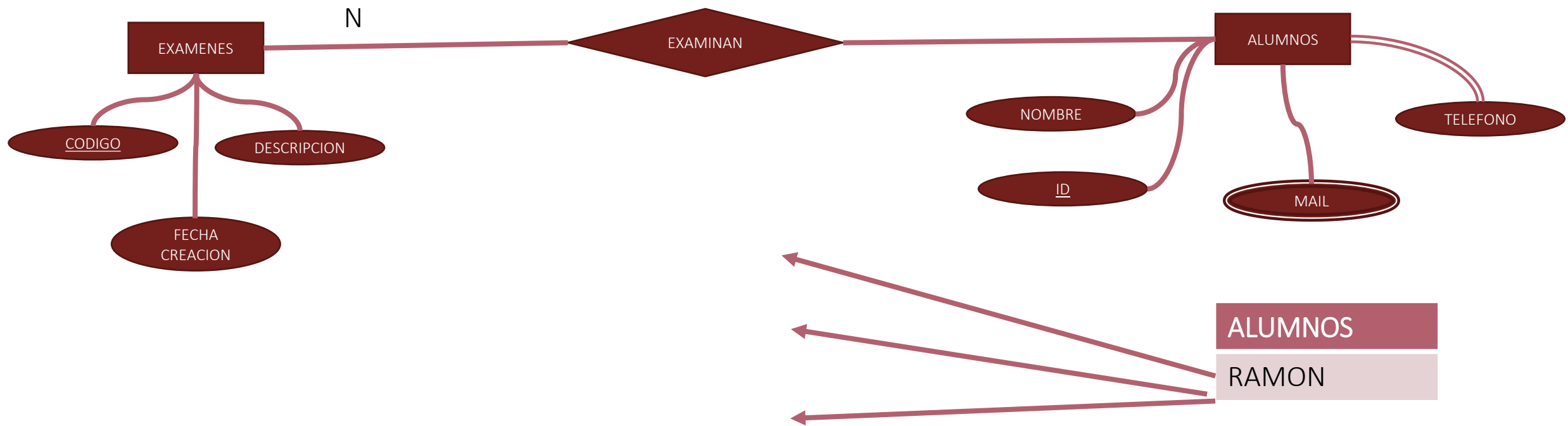


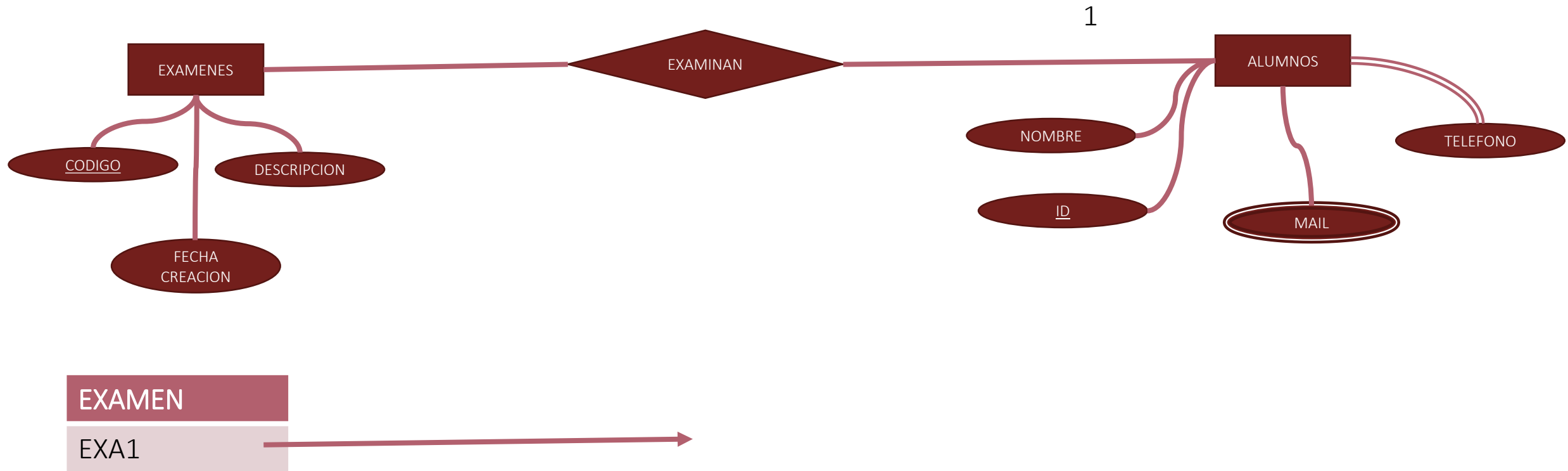
The background is a soft-focus photograph of a child's hands painting a landscape on a piece of paper. The child is holding a paintbrush and applying blue paint to create clouds. The scene is brightly lit, and the colors are soft and natural.

EJEMPLO 1

- ALMACENAR LA INFORMACION SOBRE
 - EXAMENES
 - CODIGO DE EXAMEN : IDENTIFICADA CADA EXAMEN
 - DESCRIPCION
 - FECHA CREACION
 - ALUMNOS
 - ID: IDENTIFICA AL ALUMNO
 - NOMBRE
 - MAIL : UN ALUMNO PUEDE TENER VARIOS CORREOS
 - TELEFONO : UN ALUMNO DEBE TENER UN TELEFONO
 - RELACION (EXAMINAN)
 - UN ALUMNO PUEDE REALIZAR VARIOS EXAMENES
 - UN EXAMEN SOLAMENTE LO PUEDE REALIZAR UN ALUMNO





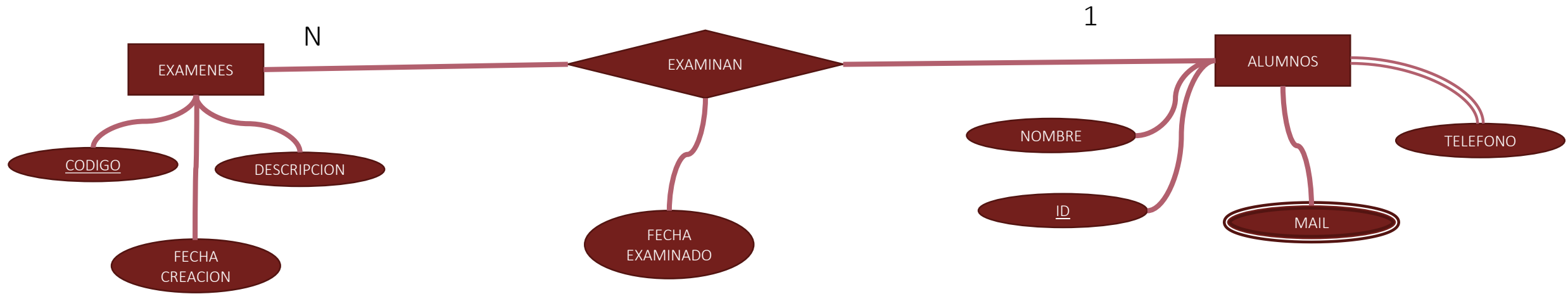


LAS RELACIONES PUEDEN TENER ATRIBUTOS



“ ✓ SI EN EL EJEMPLO
ANTERIOR QUIERO
ALMACENAR LA
FECHA DE
REALIZACION DEL
EXAMEN POR EL
ALUMNO







Where to Get Maps

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Maps are
available

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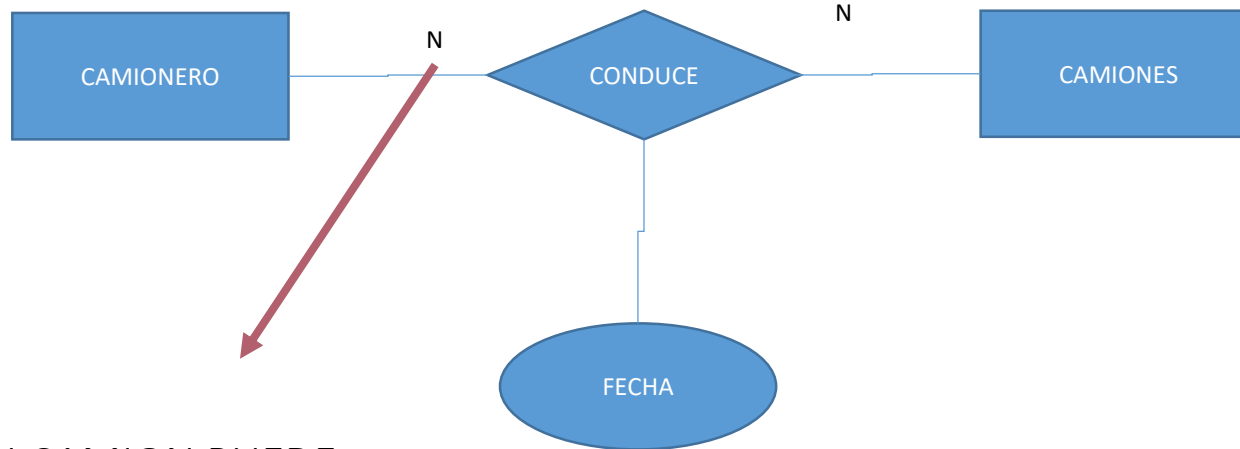
Traveling by compass in a straight line, even when possible, is often not advisable. In mountains, for example, we soon learn that on more than one occasion both time and strength can be saved by circling several miles along an old ridge instead of striking a small fraction of the distance straight across a deep ravine to the one destination.

ORIENTATION

CARDINALIDADES MINIMAS

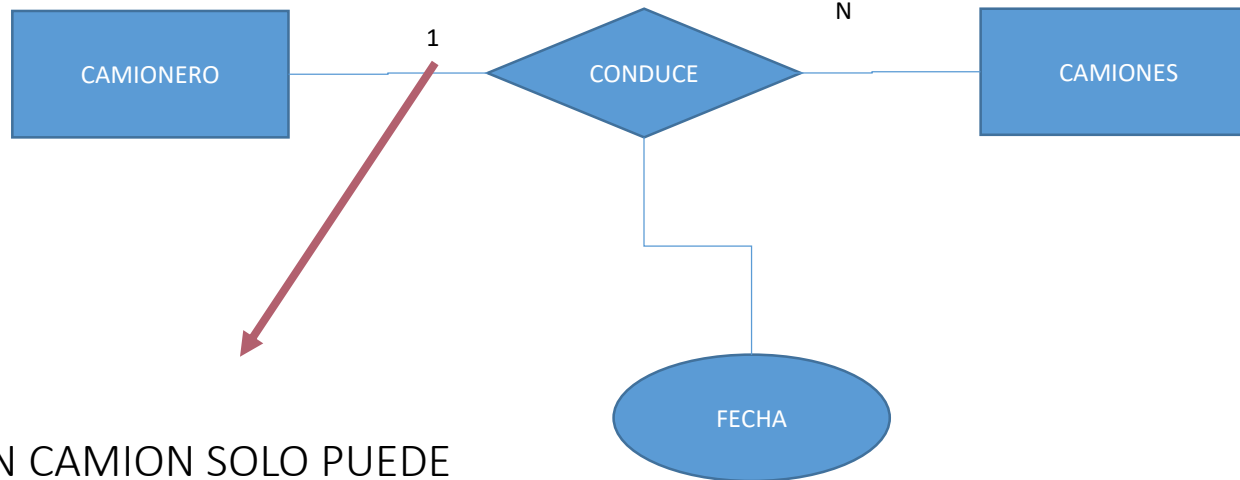


UN CAMIONERO PUEDE CONDUCIR
VARIOS CAMIONES



UN CAMION PUEDE
SER CONDUCIDO POR
VARIOS CAMIONEROS

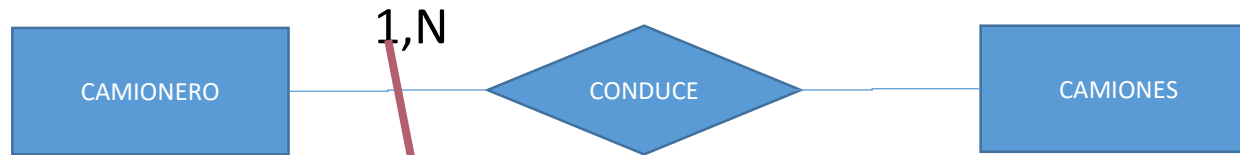
UN CAMIONERO PUEDE CONDUCIR
VARIOS CAMIONES



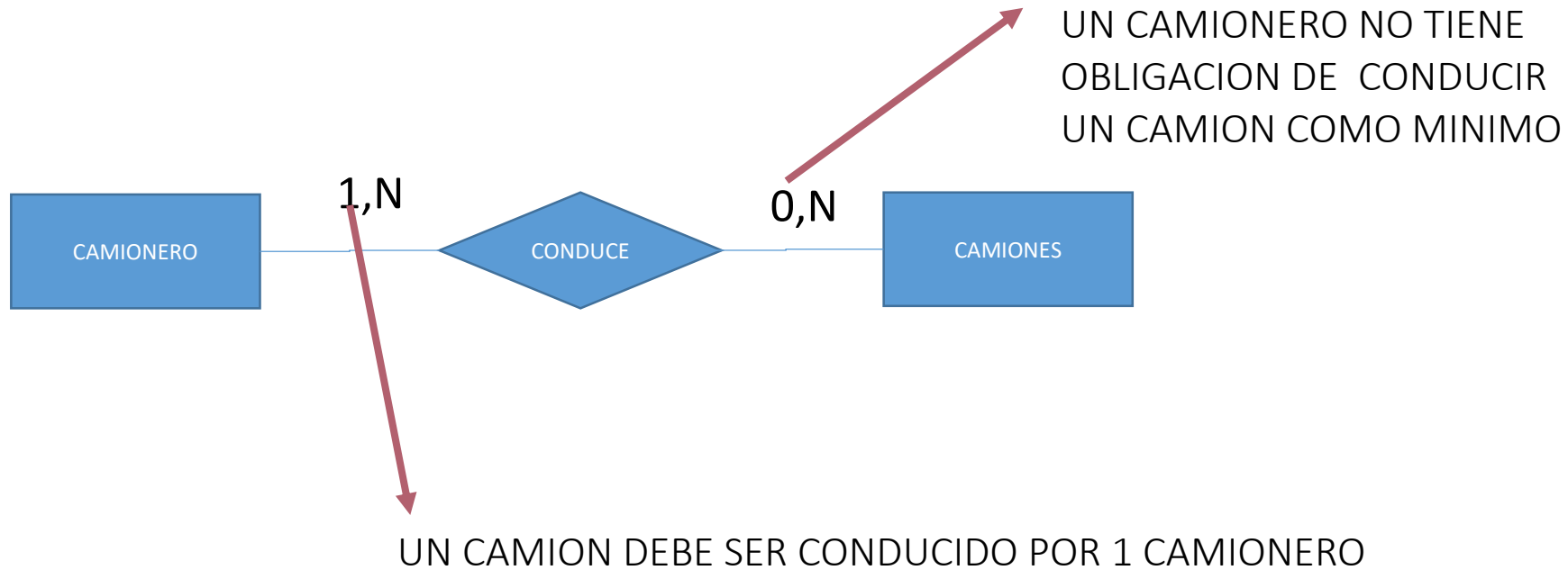
UN CAMION SOLO PUEDE
SER CONDUCIDO POR UN
CAMIONERO

VAMOS A COLOCAR LAS CARDINALIDADES MINIMAS



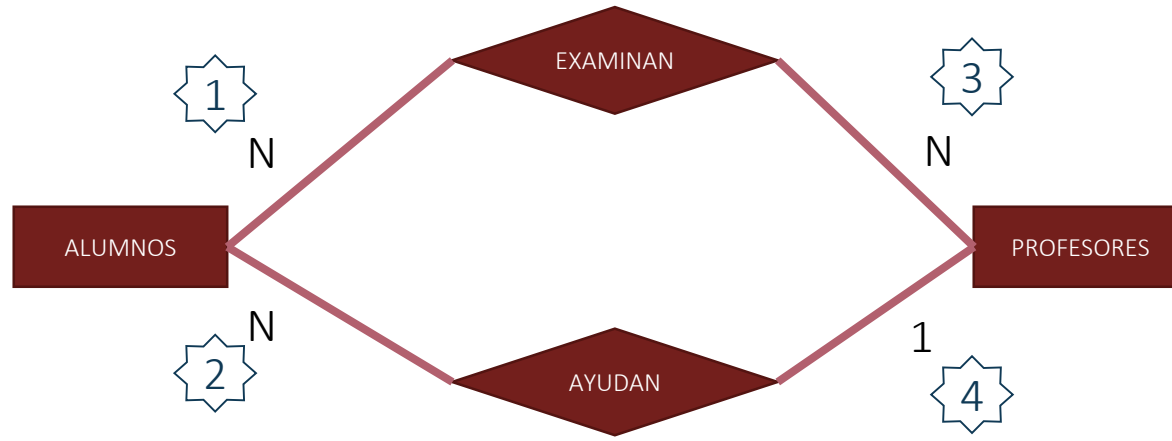


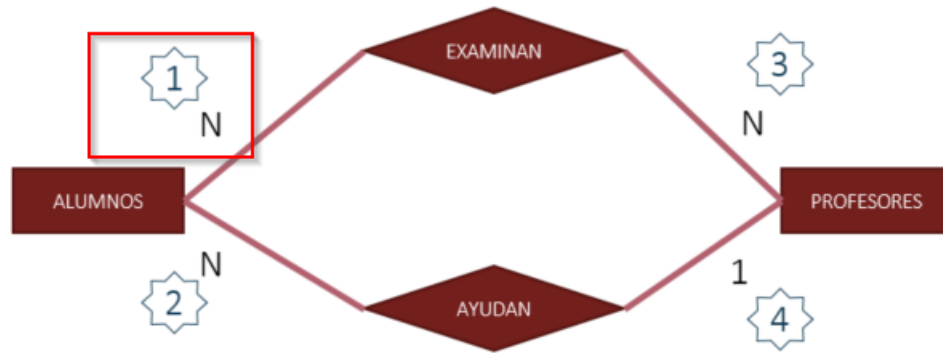
UN CAMION DEBE SER CONDUCTIDO POR 1 CAMIONERO



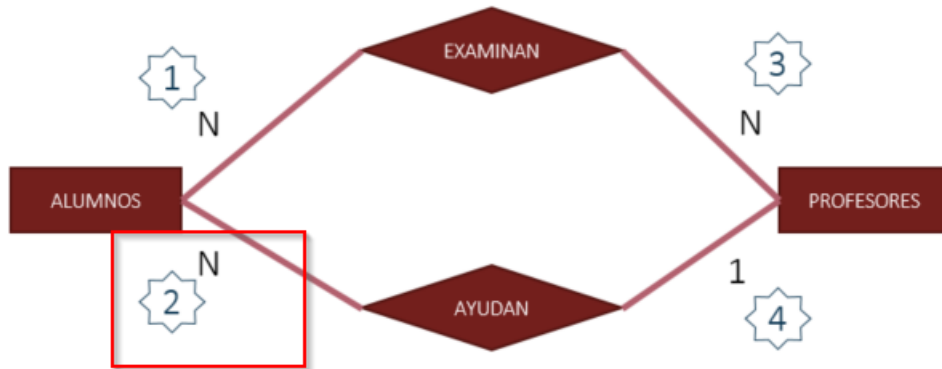
EJEMPLO 2

EJEMPLO – CARDINALIDADES MAXIMAS

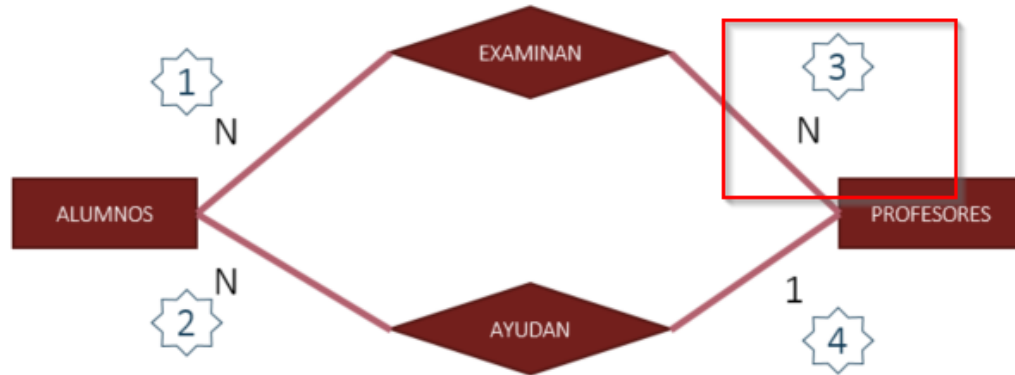




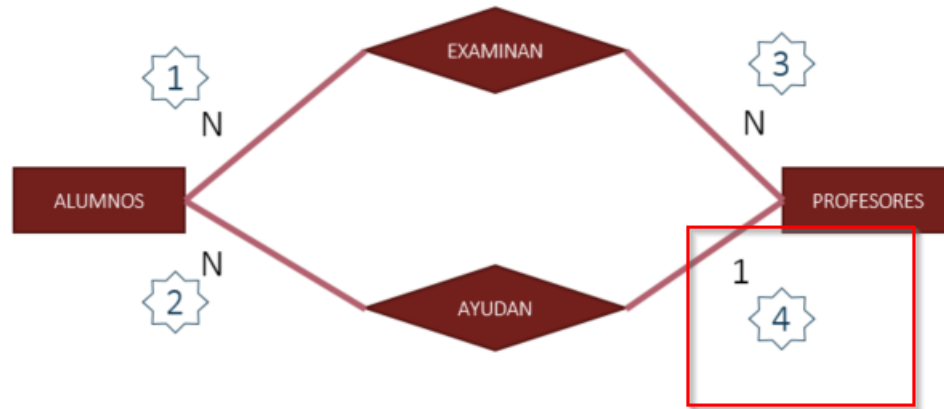
UN PROFESOR PUEDE EXAMINAR A VARIOS ALUMNOS



UN PROFESOR PUEDE AYUDAR A VARIOS ALUMNOS

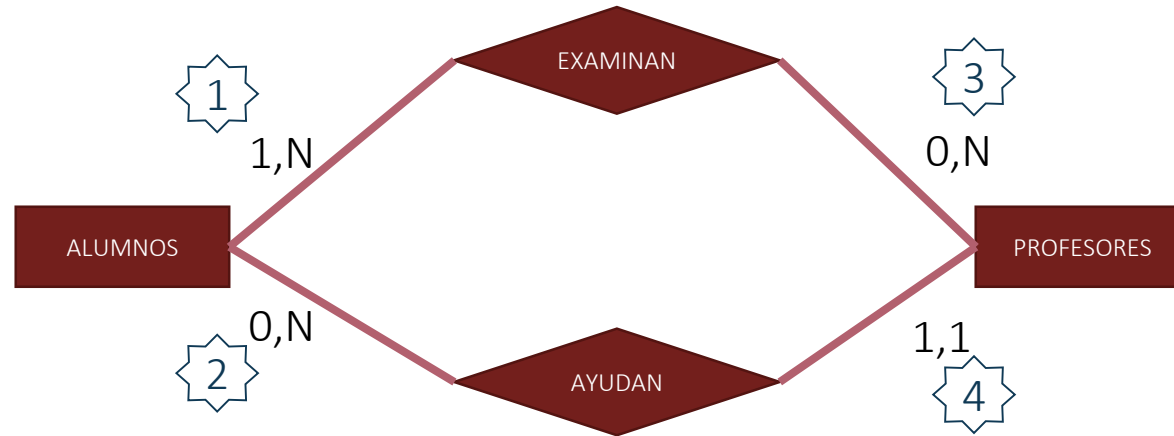


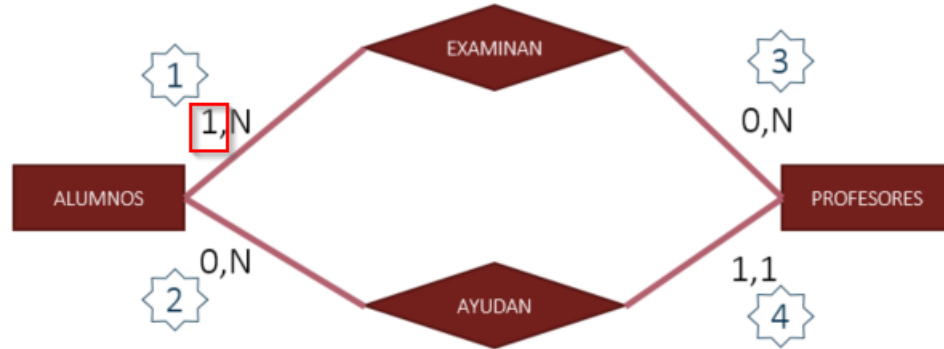
1 ALUMNO PUEDE SER EXAMINADO POR VARIOS PROFESORES



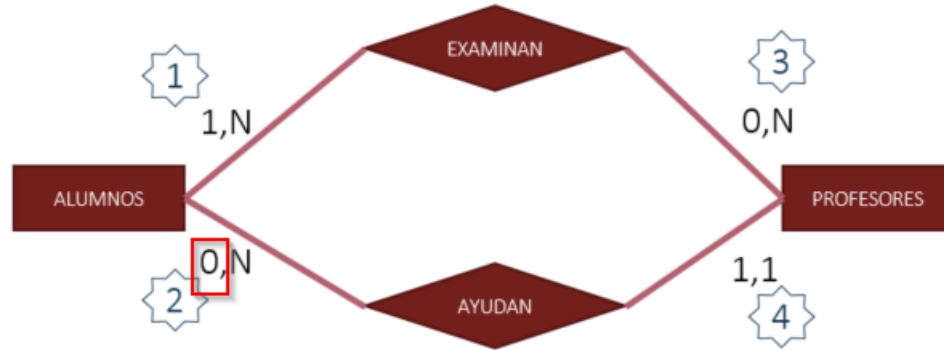
UN ALUMNO PUEDE SER AYUDADO POR 1 SOLO PROFESOR

EJEMPLO – CARDINALIDADES MINIMAS

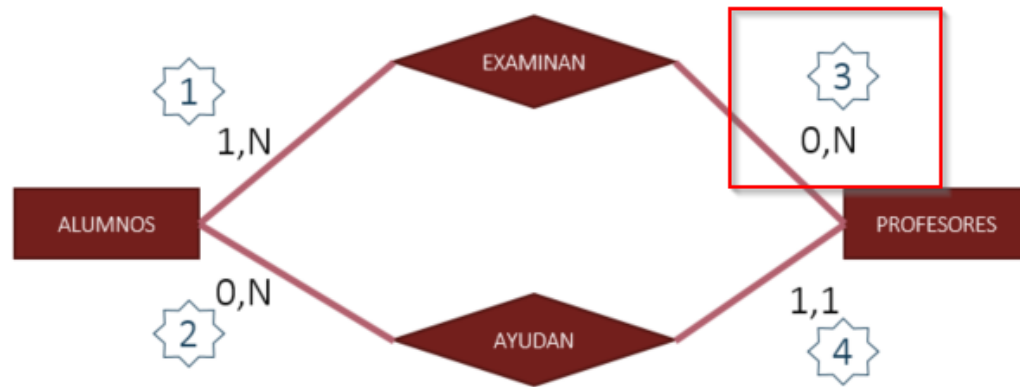




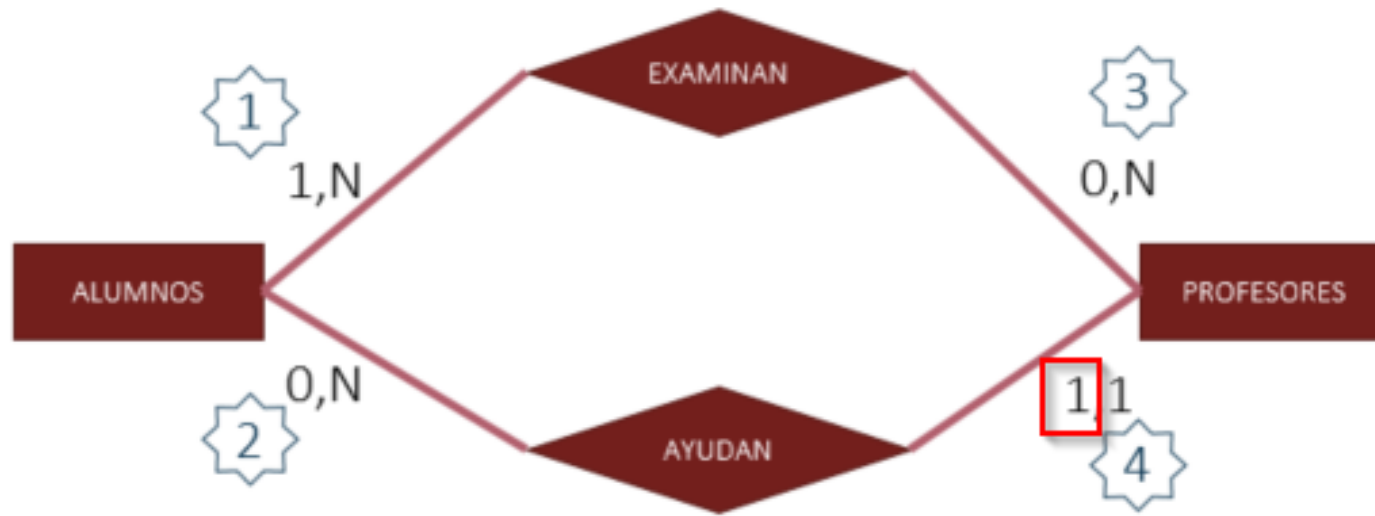
UN PROFESOR COMO MINIMO TIENE QUE EXAMINAR A 1 ALUMNO



UN PROFESOR NO TIENE
OBLIGACION DE AYUDAR A
NINGUN ALUMNO



A UN ALUMNO NO TIENE PORQUE EXAMINARLE ALGUN PROFESOR



UN ALUMNO DEBE SER AYUDADO POR 1 PROFESOR

A blurred background image of a child's hands painting a landscape with blue and white paint on a white surface. A large, solid teal circle is centered over the image, containing the text 'EJEMPLO 3'. Several smaller, semi-transparent colored circles (yellow, orange, red, white) are scattered around the central teal circle. Some of these circles contain white line-art icons: a puzzle piece, a lightbulb, and a thumbs-up gesture.

EJEMPLO 3

Ejercicio 1.-

A partir del siguiente enunciado se desea realiza el modelo entidad-relación.

“Una empresa vende productos a varios clientes. Se necesita conocer los datos personales de los clientes (nombre, apellidos, DNI, dirección y fecha de nacimiento). Cada producto tiene un nombre y un código, así como un precio unitario. Un cliente puede comprar varios productos a la empresa, y un mismo producto puede ser comprado por varios clientes.

Los productos son suministrados por diferentes proveedores. Se debe tener en cuenta que un producto sólo puede ser suministrado por un proveedor, y que un proveedor puede suministrar diferentes productos. De cada proveedor se desea conocer el NIF, nombre y dirección”.

listado de las entidades

- proveedores**
- clientes**
- productos**

IDENTIFICAR RELACIONES

	proveedores	clientes	productos
proveedores			suministran (N)
clientes			compra (N)
productos	suministran (1)	Lo compran (N)	

