### **Opdracht 4**

Met behulp van normaliseren kan een grote hoeveelheid aan gegevens efficiënter en overzichtelijker worden weergegeven. Normaliseren wordt onder andere gebruikt bij relationele databases. De gegevens die in dit document genormaliseerd worden, worden gebruikt voor de relationele database FLETNIX. De stappen en resultaten hiervan worden in dit document visueel gemaakt. De normaalvormen die gebruikt worden zijn de nulde, eerste, tweede en derde normaalvorm.

#### ONV

Voor de Nulde Normaalvorm worden alle gegevens allemaal overgenomen in één grote tabel met herhalende groepen. In *Tabelreeks 1 – Nulde Normaalvorm* staan alle gegevens in een ongenormaliseerd overzicht.

## Overview movie awards per year

Award	Year	Country	Category	Movie	Person	Code	Description
				(movie_id)	(person_id)		
Academy	2000	The	Best Film Editing	The Matrix	Zach Steanberg	W	Won
Awards		Netherlands		(207992)	(550813)		
Academy	2000	The	Best Film Editing	The Insider	William	N	Nominated
Awards		Netherlands		(160492)	Goldenberg		
					(276884)		
Academy	2000	The	Best Film Editing	The Insider	Paul Rubbel	N	Nominated
Awards		Netherlands		(160492)	(950001)		
Academy	2000	The	Best Film Editing	The Insider	David	N	Nominated
Awards		Netherlands		(160492)	Rosenbloom		
					(68042)		
Academy	2000	The	Best Film Editing	The Sixt	Andrew	N	Nominated
Awards		Netherlands		Sense	Mondshein		
				(303564)	(54796)		
Academy	2000	The	Best Sound	Fight Club	Ren Klyce	N	Nominated
Awards		Netherlands	Effects Editing	(112290)	(351397)		
Academy	2000	The	Best Sound	Fight Club	Richard Hymns	N	Nominated
Awards		Netherlands	Effects Editing	(112290)	(950002)		
Academy	2000	The	Best Sound	The Matrix	Dane Davis	W	Won
Awards		Netherlands	Effect Editing	(207992)	(950003)		
Academy	2000	The	Best Sound	Star Wars:	Ben Burtt	N	Nominated
Awards		Netherlands	Effect Editing	Episode I –	(165453)		
				The			
				Phantom			
				Menace			
				(313474)			
Academy	2000	The	Best Visual	Star Wars:	John Knoll	N	Nominated
Awards		Netherlands	Effects	Episode I –	(351981)		
				The			
				Phantom			
				Menace			
				(313474)			
Academy	2000	The	Best Visual	Star Wars:	Rob Coleman	N	Nominated
Awards		Netherlands	Effects	Episode I –	(191712)		
				The			
				Phantom			
				Menace			
		1		(313474)			

Academy Awards	2000	The Netherlands	Best Visual Effects	The Matrix (207992)	John Gaeta (950004)	W	Won
Academy	2000	The	Best Visual	The Matrix	Janed Sirrs	W	Won
Awards	2000	Netherlands	Effects	(207992)	(540853)	•••	WOII
Academy	2000	The	Best Visual	The Matrix	Steve Courtley	W	Won
Awards		Netherlands	Effects	(207992)	(950005)		
Academy	2000	The	Best Visual	The Matrix	Jon Thum	W	Won
Awards		Netherlands	Effects	(207992)	(950006)		
BAFTA	2000	New	Best Sound	The Matrix	David Lee	W	Won
Awards		Zealand		(207992)	(950007)		
BAFTA	2000	New	Best Sound	The Matrix	John Reitz	W	Won
Awards		Zealand		(207992)	(950008)		
BAFTA	2000	New	Best Sound	The Matrix	Gregg Rudloff	W	Won
Awards		Zealand		(207992)	(950009)		
BAFTA	2000	New	Best Sound	The Matrix	David Campbell	W	Won
Awards		Zealand	2000000	(207992)	(950010)		110
BAFTA	2000	New	Best Sound	The Matrix	Dane Davis	W	Won
Awards	2000	Zealand	Dest Journa	(207992)	(950003)	V V	******
BAFTA	2000	New	Best Sound	Star Wars:	Ben Burtt	N	Nominated
Awards	2000	Zealand	best sound	Episode I –	(165453)	IN .	Nominated
Awarus		Zealallu		The	(105455)		
				Phantom			
				Menace			
DAFTA	2000	NI	Doob Council	(313474)	Taura Dallifaut	<b>.</b>	Naminatad
BAFTA	2000	New	Best Sound	Star Wars:	Tom Bellfort	N	Nominated
Awards		Zealand		Episode I –	(950012)		
				The			
				Phantom			
				Menace			
				(313474)			
BAFTA	2000	New	Best Sound	American	Bob Beemer	N	Nominated
Awards		Zealand		Beauty	(950013)		
				(13789)			
BAFTA	2000	New	Best	The Matrix	Bill Pope	N	Nominated
Awards		Zealand	Cinematography	(207992)	(950014)		
BAFTA	2000	New	Best	American	Conrad Hall	W	Won
Awards		Zealand	Cinematography	Beauty	(950015)		
				(13789)			
BAFTA	2000	New	Best Production	The Matrix	Owen Paterson	N	Nominated
Awards		Zealand	Design	(207992)	(464716)		
BAFTA	2000	New	Best Production	Sleepy	Rick Heinrichs	W	Won
Awards		Zealand	Design	Hollow	(303143)		
				(304862)			
BAFTA	2000	New	Best Editing	The Matrix	Zach Staenberg	N	Nominated
Awards		Zealand		(207992)	(550813)		
BAFTA	2000	New	Best Editing	American	Tariq Anwar	W	Won
Awards		Zealand		Beauty	(950016)		
				(13789)			
BAFTA	2000	New	Best Editing	American	Christopher	W	Won
		Zealand		Beauty	Greenbury		
Awards		Lealann					

Tabelreeks 1 – Nulde Normaalvorm

## <u>1NV</u>

Om de bovenstaande tabel (*Tabelreeks 1 – Nulde Normaalvorm*) om te zetten naar de Eerste Normaalvorm, moeten de movie\_id en person\_id losgetrokken worden en in aparte kolommen worden gezet. Zo krijgen alle cellen een atomaire (enkelvoudige) waarde. De onderstaande tabel (*Tabelreeks 2 – Eerste Normaalvorm*) staat in de Eerste Normaalvorm.

### Overview movie awards per year

Award	Year	Country	Category	Movie	Movie id	Person	Person Id	Co de	Description
Academy	2000	The	Best Film	The	207992	Zach	550813	w	Won
Awards		Netherlands	Editing	Matrix		Steanberg			
Academy	2000	The	Best Film	The	160492	William	276884	N	Nominated
Awards		Netherlands	Editing	Insider		Goldenberg			
Academy	2000	The	Best Film	The	160492	Paul Rubbel	950001	N	Nominated
Awards		Netherlands	Editing	Insider					
Academy	2000	The	Best Film	The	160492	David	68042	N	Nominated
Awards		Netherlands	Editing	Insider		Rosenbloom			
Academy	2000	The	Best Film	The Sixt	303564	Andrew	54796	N	Nominated
Awards		Netherlands	Editing	Sense		Mondshein			
Academy	2000	The	Best Sound	Fight Club	112290	Ren Klyce	351397	N	Nominated
Awards		Netherlands	Effects			·			
			Editing						
Academy	2000	The	Best Sound	Fight Club	112290	Richard	950002	N	Nominated
Awards		Netherlands	Effects			Hymns			
			Editing						
Academy	2000	The	Best Sound	The	207992	Dane Davis	950003	W	Won
Awards		Netherlands	Effect	Matrix					
			Editing						
Academy	2000	The	Best Sound	Star Wars:	313474	Ben Burtt	165453	N	Nominated
Awards		Netherlands	Effect	Episode I					
			Editing	– The					
				Phantom					
				Menace					
Academy	2000	The	Best Visual	Star Wars:	313474	John Knoll	351981	N	Nominated
Awards		Netherlands	Effects	Episode I					
				– The					
				Phantom					
				Menace					
Academy	2000	The	Best Visual	Star Wars:	313474	Rob	191712	N	Nominated
Awards		Netherlands	Effects	Episode I		Coleman			
				– The					
				Phantom					
				Menace					
Academy	2000	The	Best Visual	The	207992	John Gaeta	950004	W	Won
Awards		Netherlands	Effects	Matrix					
Academy	2000	The	Best Visual	The	207992	Janed Sirrs	540853	W	Won
Awards		Netherlands	Effects	Matrix					
Academy	2000	The	Best Visual	The	207992	Steve	950005	W	Won
Awards		Netherlands	Effects	Matrix		Courtley			
Academy	2000	The	Best Visual	The	207992	Jon Thum	950006	W	Won
Awards		Netherlands	Effects	Matrix					
BAFTA	2000	New	Best Sound	The	207992	David Lee	950007	W	Won
Awards		Zealand		Matrix					
BAFTA	2000	New	Best Sound	The	207992	John Reitz	950008	W	Won
Awards		Zealand		Matrix					
BAFTA	2000	New	Best Sound	The	207992	Gregg	950009	W	Won
Awards		Zealand		Matrix		Rudloff			
BAFTA	2000	New	Best Sound	The	207992	David	950010	W	Won
Awards		Zealand		Matrix		Campbell			

BAFTA	2000	New	Best Sound	The	207992	Dane Davis	950003	W	Won
Awards		Zealand		Matrix					
BAFTA	2000	New	Best Sound	Star Wars:	313474	Ben Burtt	165453	N	Nominated
Awards		Zealand		Episode I					
				– The					
				Phantom					
				Menace					
BAFTA	2000	New	Best Sound	Star Wars:	313474	Tom Bellfort	950012	N	Nominated
Awards		Zealand		Episode I					
				– The					
				Phantom					
				Menace					
BAFTA	2000	New	Best Sound	American	13789	Bob Beemer	950013	N	Nominated
Awards		Zealand		Beauty					
BAFTA	2000	New	Best	The	207992	Bill Pope	950014	N	Nominated
Awards		Zealand	Cinematogr	Matrix					
			aphy						
BAFTA	2000	New	Best	American	13789	Conrad Hall	950015	W	Won
Awards		Zealand	Cinematogr	Beauty					
			aphy						
BAFTA	2000	New	Best	The	207992	Owen	464716	N	Nominated
Awards		Zealand	Production	Matrix		Paterson			
			Design						
BAFTA	2000	New	Best	Sleepy	304862	Rick	303143	W	Won
Awards		Zealand	Production	Hollow		Heinrichs			
			Design						
BAFTA	2000	New	Best Editing	The	207992	Zach	550813	N	Nominated
Awards		Zealand		Matrix		Staenberg			
BAFTA	2000	New	Best Editing	American	13789	Tariq Anwar	950016	W	Won
Awards		Zealand		Beauty					
BAFTA	2000	New	Best Editing	American	13789	Christopher	283753	W	Won
Awards		Zealand		Beauty		Greenbury			

Tabelreeks 2 – Eerste Normaalvorm

### <u>2NV</u>

Met behulp van de Eerste Normaalvorm, kan de tabel *Tabelreeks 2 – Eerste Normaalvorm* omgezet worden naar een Tweede Normaalvorm. Om een tabel om te zetten naar een Tweede Normaalvorm, moeten alle niet-sleutel-attributen functioneel afhankelijk zijn van de gehele primaire sleutel. Functionele afhankelijkheid houdt in dat bij een waarde (A) slechts één andere waarde (P) kan horen.

### Movie

Movie	Movie ID
The Matrix	207992
The Insider	160492
The Sixt Sense	303564
Fight Club	112290
Star Wars: Episode I – The Phantom Menace	313474
American Beauty	13789
Sleepy Hollow	304862

#### Person

Person	Person ID
Zach Staenberg	550813
William Goldenberg	276884

Paul Rubell	950001
David Rosenbloom	68042
Andrew Mondshein	54796
Ren Klyce	351397
Richard Hymns	950002
Dane Davis	950003
Ben Burtt	165453
John Knoll	351981
Rob Coleman	191712
John Gaeta	950004
Janek Sirrs	540853
Steve Courtley	950005
Jon Thum	950006
David Lee	950007
John Reitz	950008
Gregg Rudloff	950009
David Campbell	950010
Tom Bellfort	950012
Bob Beemer	950013
Bill Pope	950014
Conrad Hall	950015
Owen Paterson	464716
Rick Heinrichs	303143
Tariq Anwar	950016
Christopher Greenbury	283753

# Awardshow

Award	Year	Country	
Academy Awards	2000	The Netherlands	
BAFTA Awards	2000	New Zealand	

# Overview awards per year

Award	Year	Category	Movie ID	Person ID	Code	Description
Academy	2000	Best Film Editing	207992	550813	W	Won
Awards						
Academy	2000	Best Film Editing	160492	276884	N	Nominated
Awards						
Academy	2000	Best Film Editing	160492	950001	N	Nominated
Awards						
Academy	2000	Best Film Editing	160492	68042	N	Nominated
Awards						
Academy	2000	Best Film Editing	303564	54796	N	Nominated
Awards						
Academy	2000	Best Sound Effects Editing	112290	351397	N	Nominated
Awards						
Academy	2000	Best Sound Effects Editing	112290	950002	N	Nominated
Awards						
Academy	2000	Best Sound Effects Editing	207992	950003	W	Won
Awards						

Academy	2000	Best Sound Effects Editing	313474	165453	N	Nominated
Awards						
Academy	2000	Best Visual Effects	313474	351981	N	Nominated
Awards						
Academy	2000	Best Visual Effects	313474	191712	N	Nominated
Awards						
Academy	2000	Best Visual Effects	207992	950004	W	Won
Awards						
Academy	2000	Best Visual Effects	207992	540853	W	Won
Awards						
Academy	2000	Best Visual Effects	207992	950005	W	Won
Awards						
Academy	2000	Best Visual Effects	207992	950006	W	Won
Awards						
BAFTA	2000	Best Sound	207992	950007	W	Won
Awards						
BAFTA	2000	Best Sound	207992	950008	W	Won
Awards						
BAFTA	2000	Best Sound	207992	950009	W	Won
Awards						
BAFTA	2000	Best Sound	207992	950010	W	Won
Awards						
BAFTA	2000	Best Sound	207992	950003	W	Won
Awards						
BAFTA	2000	Best Sound	313474	165453	N	Nominated
Awards						
BAFTA	2000	Best Sound	313474	950012	N	Nominated
Awards						
BAFTA	2000	Best Sound	13789	950013	N	Nominated
Awards						
BAFTA	2000	Best Cinematography	207992	950014	N	Nominated
Awards						
BAFTA	2000	Best Cinematography	13789	950015	W	Won
Awards						
BAFTA	2000	Best Production Design	207992	464716	N	Nominated
Awards						
BAFTA	2000	Best Production Design	304862	303143	W	Won
Awards						
BAFTA	2000	Best Editing	207992	550813	N	Nominated
Awards						
BAFTA	2000	Best Editing	13789	950016	W	Won
Awards						
BAFTA	2000	Best Editing	13789	283753	W	Won
Awards						

Tabelreeks 3 – Tweede Normaalvorm

# <u>3NV</u>

Als laatst moeten de bovenstaande tabellen (*Tabelreeks 3 – Tweede Normaalvorm*) omgezet worden naar de Derde Normaalvorm. Dit kan alleen als de tabel in de Tweede Normaalvorm staat én alle attributen die niet tot een sleutel behoren niet afhangen van een niet-sleutelattribuut. De onderstaande tabel (*Tabelreeks 4 – Derde Normaalvorm*) is het resultaat.

#### Movie

Movie	Movie ID
The Matrix	207992
The Insider	160492
The Sixt Sense	303564
Fight Club	112290
Star Wars: Episode I – The Phantom Menace	313474
American Beauty	13789
Sleepy Hollow	304862

#### Person

Person	Person ID
Zach Staenberg	550813
William Goldenberg	276884
Paul Rubell	950001
David Rosenbloom	68042
Andrew Mondshein	54796
Ren Klyce	351397
Richard Hymns	950002
Dane Davis	950003
Ben Burtt	165453
John Knoll	351981
Rob Coleman	191712
John Gaeta	950004
Janek Sirrs	540853
Steve Courtley	950005
Jon Thum	950006
David Lee	950007
John Reitz	950008
Gregg Rudloff	950009
David Campbell	950010
Tom Bellfort	950012
Bob Beemer	950013
Bill Pope	950014
Conrad Hall	950015
Owen Paterson	464716
Rick Heinrichs	303143
Tariq Anwar	950016
Christopher Greenbury	283753

# Description

Code	Description
W	Won
N	Nominated

## Awardshow

Award	Year	Country
Academy Awards	2000	The Netherlands
BAFTA Awards	2000	New Zealand

## Overview awards per year

Award	Year	Category	Movie ID	Person ID	Code
Academy Awards	2000	Best Film Editing	207992	550813	W
Academy Awards	2000	Best Film Editing	160492	276884	N
Academy Awards	2000	Best Film Editing	160492	950001	N
Academy Awards	2000	Best Film Editing	160492	68042	N
Academy Awards	2000	Best Film Editing	303564	54796	N
Academy Awards	2000	Best Sound Effects Editing	112290	351397	N
Academy Awards	2000	Best Sound Effects Editing	112290	950002	N
Academy Awards	2000	Best Sound Effects Editing	207992	950003	W
Academy Awards	2000	Best Sound Effects Editing	313474	165453	N
Academy Awards	2000	Best Visual Effects	313474	351981	N
Academy Awards	2000	Best Visual Effects	313474	191712	N
Academy Awards	2000	Best Visual Effects	207992	950004	W
Academy Awards	2000	Best Visual Effects	207992	540853	W
Academy Awards	2000	Best Visual Effects	207992	950005	W
Academy Awards	2000	Best Visual Effects	207992	950006	W
BAFTA Awards	2000	Best Sound	207992	950007	W
BAFTA Awards	2000	Best Sound	207992	950008	W
BAFTA Awards	2000	Best Sound	207992	950009	W
BAFTA Awards	2000	Best Sound	207992	950010	W
BAFTA Awards	2000	Best Sound	207992	950003	W
BAFTA Awards	2000	Best Sound	313474	165453	N
BAFTA Awards	2000	Best Sound	313474	950012	N
BAFTA Awards	2000	Best Sound	13789	950013	N
BAFTA Awards	2000	Best Cinematography	207992	950014	N
BAFTA Awards	2000	Best Cinematography	13789	950015	W
BAFTA Awards	2000	Best Production Design	207992	464716	N
BAFTA Awards	2000	Best Production Design	304862	303143	W
BAFTA Awards	2000	Best Editing	207992	550813	N
BAFTA Awards	2000	Best Editing	13789	950016	W
BAFTA Awards	2000	Best Editing	13789	283753	W

Tabelreeks 4 – Derde Normaalvorm