

CONVERSION

0NF to 3NF to ERD

A Sample Report Layout

A SAMPLE REPORT LAYOUT

PROJ. NUM.	PROJECT NAME	EMPLOYEE NUMBER	EMPLOYEE NAME	JOB CLASS.	CHG/HOUR	HOURS BILLED	TOTAL CHARGE
15	Evergreen	103	June E. Arbough	Elec. Engineer	\$84.50	23.8	\$2,011.10
		101	John G. News	Database Designer	\$105.00	19.4	\$2,037.00
		105	Alice K. Johnson *	Database Designer	\$105.00	35.7	\$3,748.50
		106	William Smithfield	Programmer	\$35.75	12.6	\$450.45
		102	David H. Senior	Systems Analyst	\$96.75	23.8	\$2,302.65
Subtotal							\$10,549.70
18	Amber Wave	114	Annelise Jones	Applications Designer	\$48.10	24.6	\$1,183.26
		118	James J. Frommer	General Support	\$18.36	45.3	\$831.71
		104	Anne K. Ramoras *	Systems Analyst	\$96.75	32.4	\$3,135.70
		112	Darlene M. Smithson	DSS Analyst	\$45.95	44.0	\$2,021.80
Subtotal							\$7,171.47
22	Rolling Tide	105	Alice K. Johnson	Database Designer	\$105.00	64.7	\$6,793.50
		104	Anne K. Ramoras	Systems Analyst	\$96.75	48.4	\$4,682.70
		113	Delbert K. Joenbrood *	Applications Designer	\$48.10	23.6	\$1,135.16
		111	Geoff B. Wabash	Clerical Support	\$26.87	22.0	\$591.14
		106	William Smithfield	Programmer	\$35.75	12.8	\$457.60
Subtotal							\$13,660.10
25	Starflight	107	Maria D. Alonzo	Programmer	\$35.75	24.6	\$879.45
		115	Travis B. Bawangi	Systems Analyst	\$96.75	45.8	\$4,431.15
		101	John G. News *	Database Designer	\$105.00	56.3	\$5,911.50
		114	Annelise Jones	Applications Designer	\$48.10	33.1	\$1,592.11
		108	Ralph B. Washington	Systems Analyst	\$96.75	23.6	\$2,283.30
		118	James J. Frommer	General Support	\$18.36	30.5	\$559.98
		112	Darlene M. Smithson	DSS Analyst	\$45.95	41.4	\$1,902.33
Subtotal							\$17,559.82
Total							\$48,941.09
* Indicates project leader							

Notes:

Data has repeating groups; not yet normalize (unnormalize / ONF)

A Table in the Report Format

A TABLE IN THE REPORT FORMAT

Table name: RPT_FORMAT

Database name: Ch05_ConstructCo

	PROJ_NUM	PROJ_NAME	EMP_NUM	EMP_NAME	JOB_CLASS	CHG_HOUR	HOURS
▶ 15		Evergreen	103	June E. Arbough	Elect. Engineer	\$84.50	23.8
			101	John G. News	Database Designer	\$105.00	19.4
			105	Alice K. Johnson *	Database Designer	\$105.00	35.7
			106	William Smithfield	Programmer	\$35.75	12.8
			102	David H. Senior	Systems Analyst	\$96.75	23.8
18		Amber Wave	114	Annelise Jones	Applications Designer	\$48.10	24.8
			118	James J. Frommer	General Support	\$18.36	45.3
			104	Anne K. Ramoras *	Systems Analyst	\$96.75	32.4
			112	Darlene M. Smithson	DSS Analyst	\$45.95	44.0
22		Rolling Tide	105	Alice K. Johnson	Database Designer	\$105.00	64.7
			104	Anne K. Ramoras	Systems Analyst	\$96.75	48.4
			113	Delbert K. Joenbrood *	Applications Designer	\$48.10	23.8
			111	Geoff B. Wabash	Clerical Support	\$26.87	22.0
			106	William Smithfield	Programmer	\$35.75	12.8
25		Starflight	107	Maria D. Alonzo	Programmer	\$35.75	24.8
			115	Travis B. Bawangi	Systems Analyst	\$96.75	45.8
			101	John G. News *	Database Designer	\$105.00	56.3
			114	Annelise Jones	Applications Designer	\$48.10	33.1
			108	Ralph B. Washington	Systems Analyst	\$96.75	23.8
			118	James J. Frommer	General Support	\$18.36	30.5
			112	Darlene M. Smithson	DSS Analyst	\$45.95	41.4

Notes:

Data in tabular format
has repeating groups.

This table is not yet
normalize (unnormailize /
ONF)

Data Organization: First Normal Form

DATA ORGANIZATION: FIRST NORMAL FORM

Notes:

Data in tabular format
with **no repeating groups**
(each repeating group
attribute contains an
appropriate data value)

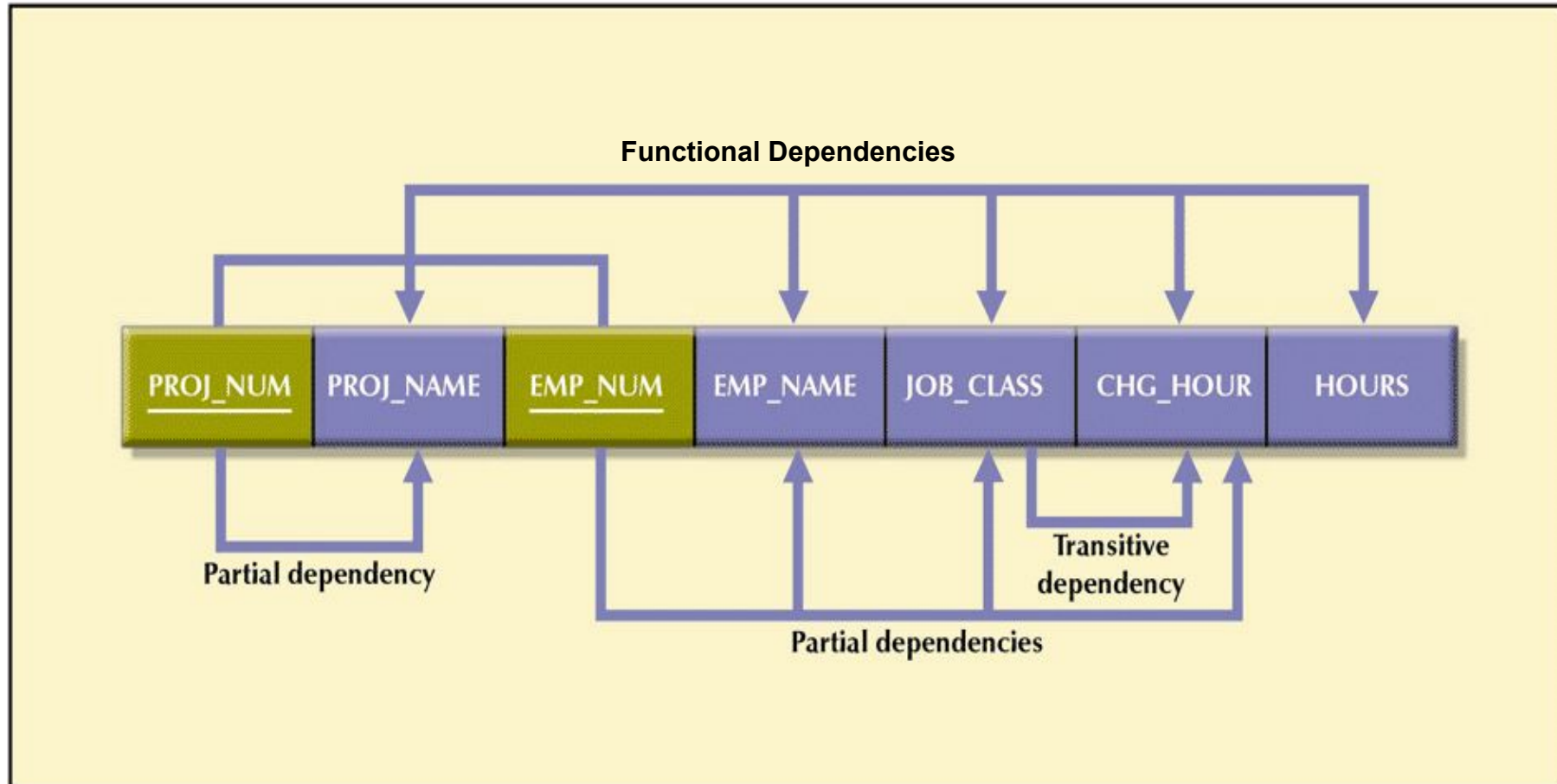
Table name: DATA_ORG_1NF

Database name: Ch05_ConstructCo

	PROJ_NUM	PROJ_NAME	EMP_NUM	EMP_NAME	JOB_CLASS	CHG_HOUR	HOURS
▶	15	Evergreen	103	June E. Arbough	Elect. Engineer	\$84.50	23.8
	15	Evergreen	101	John G. News	Database Designer	\$105.00	19.4
	15	Evergreen	105	Alice K. Johnson *	Database Designer	\$105.00	35.7
	15	Evergreen	106	William Smithfield	Programmer	\$35.75	12.6
	15	Evergreen	102	David H. Senior	Systems Analyst	\$96.75	23.8
	18	Amber Wave	114	Annelise Jones	Applications Designer	\$48.10	24.6
	18	Amber Wave	118	James J. Frommer	General Support	\$18.36	45.3
	18	Amber Wave	104	Anne K. Ramoras *	Systems Analyst	\$96.75	32.4
	18	Amber Wave	112	Darlene M. Smithson	DSS Analyst	\$45.95	44.0
	22	Rolling Tide	105	Alice K. Johnson	Database Designer	\$105.00	64.7
	22	Rolling Tide	104	Anne K. Ramoras	Systems Analyst	\$96.75	48.4
	22	Rolling Tide	113	Delbert K. Joenbrood *	Applications Designer	\$48.10	23.6
	22	Rolling Tide	111	Geoff B. Wabash	Clerical Support	\$26.87	22.0
	22	Rolling Tide	106	William Smithfield	Programmer	\$35.75	12.8
	25	Starflight	107	Maria D. Alonzo	Programmer	\$35.75	24.6
	25	Starflight	115	Travis B. Bawangi	Systems Analyst	\$96.75	45.8
	25	Starflight	101	John G. News *	Database Designer	\$105.00	56.3
	25	Starflight	114	Annelise Jones	Applications Designer	\$48.10	33.1
	25	Starflight	108	Ralph B. Washington	Systems Analyst	\$96.75	23.6
	25	Starflight	118	James J. Frommer	General Support	\$18.36	30.5
	25	Starflight	112	Darlene M. Smithson	DSS Analyst	\$45.95	41.4

A Dependency Diagram: First Normal Form (1NF)

A DEPENDENCY DIAGRAM: FIRST NORMAL FORM (1NF)



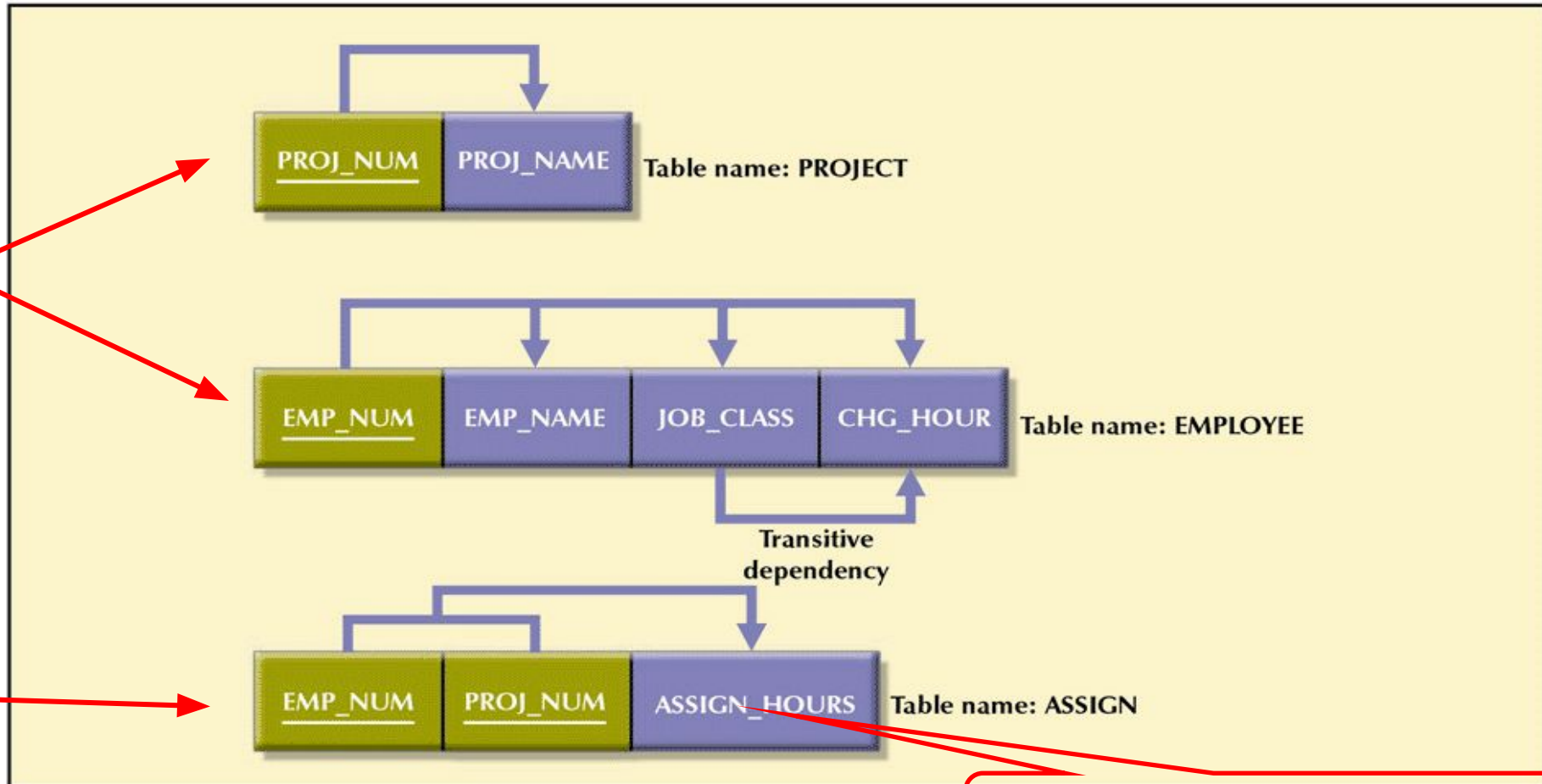
Second Normal Form (2NF) Conversion Results

SECOND NORMAL FORM (2NF) CONVERSION RESULTS

Notes:
convert all partial into tables.

From Partial
dependency

From Functional
dependency



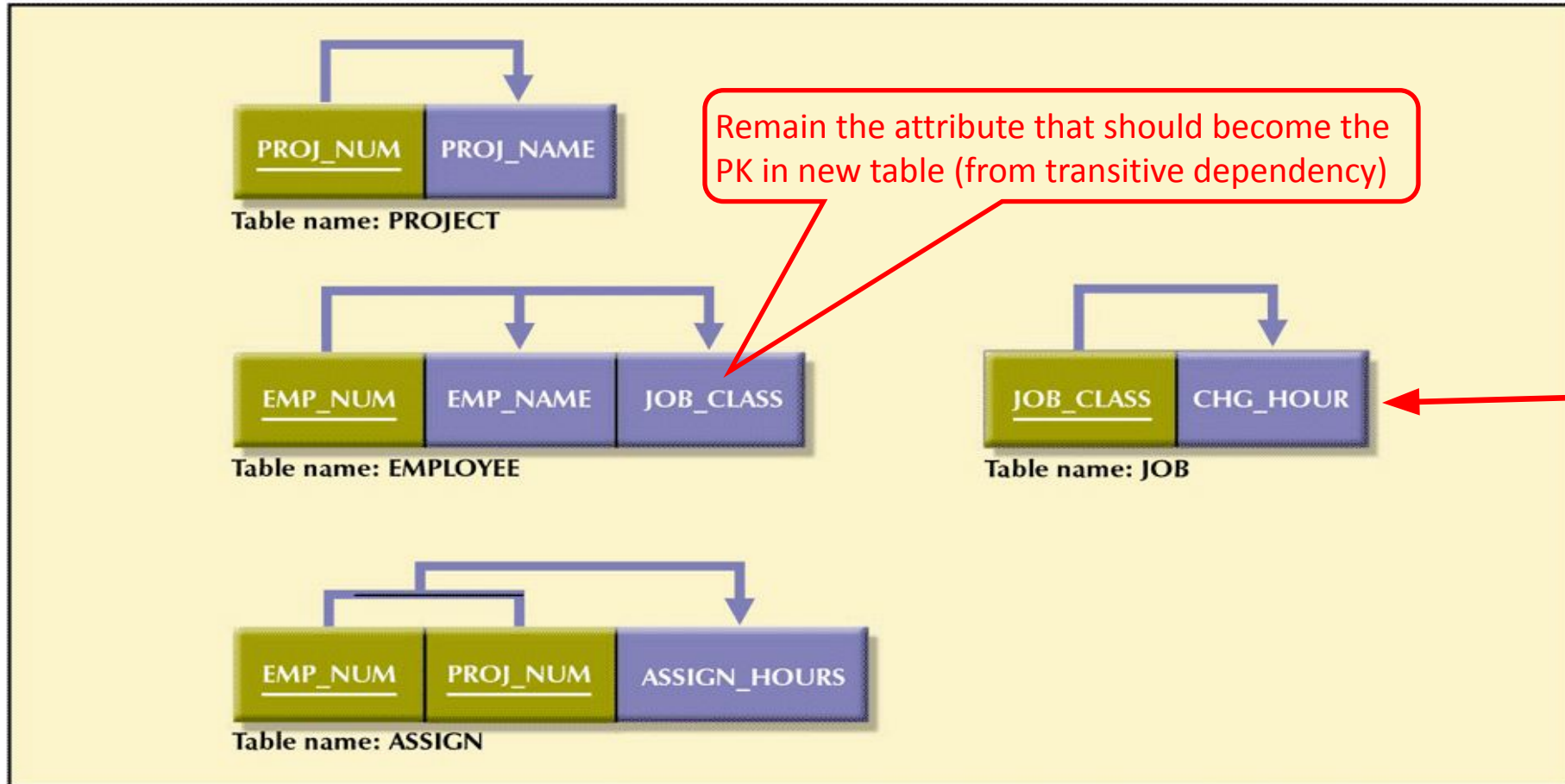
Remaining attributes that are not
related to any partial dependency

Third Normal Form (3NF) Conversion Results

THIRD NORMAL FORM (3NF) CONVERSION RESULTS

Notes:

convert all transitive into tables.



Convert 3NF to ERD

CONVERSION THIRD NORMAL FORM (3NF) TO ERD

