# native.country marital.status SUM(fnlwgt) COUNT(\*)

197	Inaliand	Divorcea	8/6803	3
129	Japan	Divorced	2928035	13
95	Hungary	Divorced	332719	2
196	Taiwan	Never-married	5091872	25
70	Greece	Divorced	563784	3

#### Synthetic

	native.country	marital.status	SUM(fnlwgt)	COUNT(*)
197	Thailand	Divorced	904986.196604	5.000000
129	Japan	Divorced	44034055.207424	247.000000
95	Hungary	Divorced	29644820.469457	163.000000
196	Taiwan	Never-married	6998547.522023	37.000000
70	Greece	Divorced	nan	nan

SOL for Real:

SELECT 'native.country', 'marital.status', SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY 'native.country', 'marital.status'

Resulted in 221 records

SQL for Synthetic:

SELECT `native.country`, `marital.status`,SUM(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`, `marital.status`

Resulted in 196 records

Normalized Euclidean distance for (fnlwgt): 13.19

Hellinger Distance: 0.4

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Real

	relationship	race	occupation	MAX(age)	COUNT(*)
227	Own-child	Black	Machine-op-inspct	52	60
149	Other-relative	Asian-Pac-Islander	Handlers-cleaners	53	4
80	Not-in-family	Asian-Pac-Islander	Adm-clerical	71	44
49	Husband	Other	Tech-support	40	2
276	Unmarried	Asian-Pac-Islander	?	72	8

#### Synthetic

	relationship	race	occupation	MAX(age)	COUNT(*)
227	Own-child	Black	Machine-op-inspct	57.000000	55.000000
149	Other-relative	Asian-Pac-Islander	Handlers-cleaners	28.000000	2.000000
80	Not-in-family	Asian-Pac-Islander	Adm-clerical	70.000000	32.000000
49	Husband	Other	Tech-support	27.000000	1.000000
276	Unmarried	Asian-Pac-Islander	?	27.000000	1.000000

# SQL for Real:

SELECT relationship,race,occupation,MAX(age), COUNT(\*) FROM C1 GROUP BY relationship,race,occupation

Resulted in 387 records

# SQL for Synthetic:

SELECT relationship,race,occupation,MAX(age), COUNT(\*) FROM C1 syn 06 GROUP BY relationship,race,occupation

Resulted in 376 records

Normalized Euclidean distance for (age): 19.0

Hellinger Distance: 0.064

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	education	native.country	occupation	race	relationship	sex	workclass	income	marital.status	MIN(`hours.per.week`)	COUNT(*)
4653	Assoc-voc	Puerto-Rico	Prof-specialty	White	Husband	Male	Private	<=50K	Married-civ-spouse	nan	nan
2495	7th-8th	Puerto-Rico	Machine-op-inspct	Other	Unmarried	Female	Private	<=50K	Widowed	nan	nan
944	11th	Puerto-Rico	?	White	Not-in-family	Male	?	<=50K	Divorced	nan	nan
4102	Assoc-acdm	United-States	Sales	Other	Own-child	Female	Private	<=50K	Never-married	nan	nan
15752	Some-college	Puerto-Rico	Tech-support	White	Not-in-family	Female	State-gov	<=50K	Never-married	nan	nan

## Synthetic

	education	native.country	occupation	race	relationship	sex	workclass	income	marital.status	MIN(`hours.per.week`)	COUNT(*)
4653	Assoc-voc	Puerto-Rico	Prof-specialty	White	Husband	Male	Private	<=50K	Married-civ-spouse	40.189674	7
2495	7th-8th	Puerto-Rico	Machine-op-inspct	Other	Unmarried	Female	Private	<=50K	Widowed	40.002161	1
944	11th	Puerto-Rico	?	White	Not-in-family	Male	?	<=50K	Divorced	39.993443	2
4102	Assoc-acdm	United-States	Sales	Other	Own-child	Female	Private	<=50K	Never-married	39.552374	1
15752	Some-college	Puerto-Rico	Tech-support	White	Not-in-family	Female	State-gov	<=50K	Never-married	39.957147	2

#### SQL for Rea

 $SELECT\ education, `native.country`, occupation, race, relationship, sex, workclass, income, `marital.status`, MIN(`hours.per.week`), COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, `native.country`, occupation, race, relationship, sex, workclass, income, `marital.status`$ 

Resulted in 12664 records

#### SQL for Synthetic:

SELECT education, `native.country`,occupation,race,relationship,sex,workclass,income, `marital.status`,MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY education, `native.country`,occupation,race,relationship,sex,workclass,income, `marital.status`

Resulted in 17127 records

Normalized Euclidean distance for ('hours.per.week'): 64.61

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#### Real

	workclass	race	occupation	income	education	marital.status	native.country	sex	MAX(capital)	COUNT(*)
8734	Private	White	Priv-house-serv	<=50K	Bachelors	Never-married	United-States	Female	0.000000	2.000000
8077	Private	White	Other-service	<=50K	10th	Divorced	Cuba	Female	nan	nan
2000	Local-gov	White	Adm-clerical	<=50K	9th	Divorced	United-States	Female	nan	nan
7853	Private	White	Machine-op-inspct	<=50K	HS-grad	Divorced	Ireland	Male	nan	nan
5016	Private	Other	Adm-clerical	<=50K	HS-grad	Never-married	Thailand	Female	nan	nan

#### Synthetic

	workclass	race	occupation	income	education	marital. status	native.country	sex	MAX(capital)	COUNT(*)
8734	Private	White	Priv-house-serv	<=50K	Bachelors	Never-married	United-States	Female	75.016811	1
8077	Private	White	Other-service	<=50K	10th	Divorced	Cuba	Female	38.575525	1
2000	Local-gov	White	Adm-clerical	<=50K	9th	Divorced	United-States	Female	31.430604	1
7853	Private	White	Machine-op-inspct	<=50K	HS-grad	Divorced	Ireland	Male	0.638358	1
5016	Private	Other	Adm-clerical	<=50K	HS-grad	Never-married	Thailand	Female	-0.306732	1

#### SQL for Real:

SELECT workclass,race,occupation,income,education, `marital.status`, `native.country`,sex,MAX(capital), COUNT(\*) FROM C1 GROUP BY workclass,race,occupation,income,education, `marital.status`, `native.country`,sex

Resulted in 10025 records

# SQL for Synthetic:

SELECT workclass,race,occupation,income,education, `marital.status`, `native.country`,sex,MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass,race,occupation,income,education, `marital.status`, `native.country`,sex

Resulted in 13875 records

Normalized Euclidean distance for (capital): 59.76

Hellinger Distance: 0.252

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#### Real

	native.country	workclass	MIN(age)	COUNT(*)
135	Jamaica	Private	18	87
<b>59</b>	England	Self-emp-not-inc	18	13
133	Jamaica	Federal-gov	48	1
113	India	State-gov	24	17
151	Mexico	Federal-gov	32	4

# Synthetic

	native.country	workclass	MIN(age)	COUNT(*)
135	Jamaica	Private	31.000000	42.000000
<b>59</b>	England	Self-emp-not-inc	27.000000	1.000000
133	Jamaica	Federal-gov	57.000000	2.000000
113	India	State-gov	28.000000	2.000000
151	Mexico	Federal-gov	38 000000	1 000000

# SQL for Real:

 $SELECT\ `native.country\ `,workclass,MIN(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ `native.country\ `,workclass,MIN(age),\ C2\ GROUP\ BY\ `,workc$ 

Resulted in 248 records

# $\underline{SQL\ for\ Synthetic:}$

 $SELECT `native.country`, workclass, MIN (age), \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country`, workclass \ All \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ All \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ All \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ All \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ All \ COUNT(*) \ FROM \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ All \ C1\_syn\_06 \ GROUP \ BY \ `native.country', workclass \ C1$ 

Resulted in 207 records

Normalized Euclidean distance for (age): 13.56

Hellinger Distance: 0.394

Real
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	occupation	relationship	race	education	workclass	sex	AVG(fnlwgt)	COUNT(*)
132	4 Craft-repair	Unmarried	Asian-Pac-Islander	Masters	Private	Male	180239.000000	1
387	' Adm-clerical	Not-in-family	Amer-Indian-Eskimo	Bachelors	Private	Male	190319.000000	1
252	9 Handlers-cleaners	Own-child	White	Bachelors	Private	Male	198285.812500	16
196	2 Exec-managerial	Wife	Asian-Pac-Islander	Bachelors	Self-emp-not-inc	Female	163559.000000	1
524	0 Tech-support	Husband	White	HS-grad	Private	Male	185233.546875	64

# Synthetic

	occupation	relationship	race	education	workclass	sex	AVG(fnlwgt)	COUNT(*)
1324	Craft-repair	Unmarried	Asian-Pac-Islander	Masters	Private	Male	nan	nan
387	Adm-clerical	Not-in-family	Amer-Indian-Eskimo	Bachelors	Private	Male	179622.253562	1.000000
2529	Handlers-cleaners	Own-child	White	Bachelors	Private	Male	186270.115320	16.000000
1962	Exec-managerial	Wife	Asian-Pac-Islander	Bachelors	Self-emp-not-inc	Female	nan	nan
5240	Tech-support	Husband	White	HS-grad	Private	Male	178073 756101	72.000000

#### SQL for Real:

SELECT occupation, relationship, race, education, workclass, sex, AVG(fnlwgt), COUNT(\*) FROM C1 GROUP BY occupation, relationship, race, education, workclass, sex Resulted in 5820 records

Resulted in 5511 records

Normalized Euclidean distance for (fnlwgt): 59.74

Hellinger Distance: 0.125

#### Real

workclass	native.country	AVG(`hours.per.week`)	COUNT(*)
?	Japan	38.333333	3
State-gov	India	40.058824	17
elf-emp-not-inc	Yugoslavia	44.500000	4
?	Honduras	17.000000	1
Local-gov	China	38.333333	3
	? State-gov elf-emp-not-inc ?	? Japan State-gov India elf-emp-not-inc Yugoslavia ? Honduras	? Japan 38.333333 State-gov India 40.058824 elf-emp-not-inc Yugoslavia 44.500000 ? Honduras 17.000000

#### Synthetic

	workclass	native.country	AVG(`hours.per.week`)	COUNT(*)
22	?	Japan	39.972852	55.000000
229	State-gov	India	40.015170	2.000000
216	Self-emp-not-inc	Yugoslavia	40.012129	4.000000
14	?	Honduras	nan	nan
70	Local-gov	China	39.993824	5.000000

SQL for Real: SELECT workclass, `native.country`,AVG(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY workclass, `native.country`

Resulted in 248 records

SQL for Synthetic:

SELECT workclass, 'native.country', AVG('hours.per.week'), COUNT(\*) FROM C1 syn 06 GROUP BY workclass, 'native.country'

Resulted in 207 records

Normalized Euclidean distance for (`hours.per.week`): 13.56

Hellinger Distance: 0.394

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#### Real

	sex	relationship	native.country	workclass	marital.status	occupation	race	income	education	MIN(capital)	COUNT(*)
9893	Male	Husband	Puerto-Rico	Private	Married-civ-spouse	Transport-moving	White	<=50K	Assoc-acdm	nan	nan
15884	Male	Own-child	United-States	Private	Married-civ-spouse	Sales	White	<=50K	Bachelors	nan	nan
15011	Male	Own-child	Columbia	Self-emp-not-inc	Never-married	Transport-moving	White	<=50K	HS-grad	nan	nan
3820	Female	Own-child	Taiwan	Private	Married-civ-spouse	Prof-specialty	White	<=50K	Assoc-voc	nan	nan
8910	Male	Husband	Japan	Self-emp-not-inc	Married-civ-spouse	Prof-specialty	White	<=50K	Prof-school	nan	nan

# Synthetic

	sex	relationship	native.country	workclass	marital.status	occupation	race	income	education	MIN(capital)	COUNT(*)
9893	Male	Husband	Puerto-Rico	Private	Married-civ-spouse	Transport-moving	White	<=50K	Assoc-acdm	-65.203050	4
15884	Male	Own-child	United-States	Private	Married-civ-spouse	Sales	White	<=50K	Bachelors	42.092501	1
15011	Male	Own-child	Columbia	Self-emp-not-inc	Never-married	Transport-moving	White	<=50K	HS-grad	-14.215888	1
3820	Female	Own-child	Taiwan	Private	Married-civ-spouse	Prof-specialty	White	<=50K	Assoc-voc	65.317075	1
8910	Male	Husband	Japan	Self-emp-not-inc	Married-civ-spouse	Prof-specialty	White	<=50K	Prof-school	-37.773696	4

# SQL for Real:

SELECT sex, relationship, `native.country`, workclass, `marital.status`, occupation, race, income, education, MIN(capital), COUNT(\*) FROM C1 GROUP BY sex,relationship, `native.country`, workclass, `marital.status`, occupation, race, income, education

Resulted in 12664 records

SQL for Synthetic:

SELECT sex, relationship, `native.country`, workclass, `marital.status`, occupation, race, income, education, MIN(capital), COUNT(\*) FROM C1 syn 06 GROUP BY sex,relationship, `native.country`, workclass, `marital.status`, occupation, race, income, education

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.252

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#### Real

# native.country relationship MAX(fnlwgt) COUNT(\*)

151	Mexico	Wife	412156	28
100	Hong	Wife	217921	7
191	Puerto-Rico	Own-child	538319	16
239	Yugoslavia	Unmarried	406518	1
75	Greece	Unmarried	227515	2

# Synthetic

# native.country relationship MAX(fnlwgt) COUNT(\*)

151	Mexico	Wife	199533.493530	4.000000
100	Hong	Wife	nan	nan
191	Puerto-Rico	Own-child	210829.953625	994.000000
239	Yugoslavia	Unmarried	194179.822551	38.000000
<b>75</b>	Greece	Unmarried	191611.068410	1.000000

SQL for Real:

SELECT `native.country`,relationship,MAX(fnlwgt), COUNT(\*) FROM C1 GROUP BY `native.country`,relationship

Resulted in 241 records

SQL for Synthetic:

SELECT 'native.country', relationship, MAX(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY 'native.country', relationship

Resulted in 212 records

Normalized Euclidean distance for (fnlwgt): 14.25

Hellinger Distance: 0.399

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Real	

	sex	race	relationship	occupation	education	income	marital.status	native.country	SUM(fnlwgt)	COUNT(*)
12617	Male	White	Unmarried	Craft-repair	HS-grad	<=50K	Never-married	Puerto-Rico	nan	nan
9354	Male	White	Husband	Sales	Assoc-voc	<=50K	Married-civ-spouse	Columbia	nan	nan
12627	Male	White	Unmarried	Craft-repair	HS-grad	<=50K	Widowed	United-States	644187.000000	4.000000
8761	Male	White	Husband	Machine-op-inspct	11th	<=50K	Married-civ-spouse	Japan	nan	nan
382	Female	Black	Not-in-family	Adm-clerical	9th	<=50K	Divorced	United-States	nan	nan

#### Synthetic

	sex	race	relationship	occupation	education	income	marital.status	native.country	SUM(fnlwgt)	COUNT(*)
12617	Male	White	Unmarried	Craft-repair	HS-grad	<=50K	Never-married	Puerto-Rico	344061.200592	2
9354	Male	White	Husband	Sales	Assoc-voc	<=50K	Married-civ-spouse	Columbia	710059.539570	4
12627	Male	White	Unmarried	Craft-repair	HS-grad	<=50K	Widowed	United-States	196908.784593	1
8761	Male	White	Husband	Machine-op-inspct	11th	<=50K	Married-civ-spouse	Japan	178170.547651	1
382	Female	Black	Not-in-family	Adm-clerical	9th	<=50K	Divorced	United-States	158023.412986	1

# SQL for Real:

SELECT sex,race,relationship,occupation,education,income, `marital.status`, `native.country`,SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY sex,race,relationship,occupation,education,income, `marital.status`, `native.country`

Resulted in 9390 records

#### SQL for Synthetic:

SELECT sex,race,relationship,occupation,education,income, `marital.status`, `native.country`,SUM(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex,race,relationship,occupation,education,income, `marital.status`, `native.country`

Resulted in 13048 records

Normalized Euclidean distance for (fnlwgt): 57.52

Hellinger Distance: 0.264

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		rtour		
	race	education	SUM(age)	COUNT(*)
42	Black	Doctorate	791	16
78	White	Prof-school	33990	748
5	Amer-Indian-Eskimo	7th-8th	530	10
54	Other	9th	426	15
11	Amer-Indian-Eskimo	HS-grad	6428	176

# Synthetic

	race	${\bf education}$	SUM(age)	COUNT(*)
42	Black	Doctorate	712.000000	15.000000
<b>78</b>	White	Prof-school	35718.000000	777.000000
5	Amer-Indian-Eskimo	7th-8th	282.000000	6.000000
<b>54</b>	Other	9th	338.000000	11.000000
11	Amer-Indian-Eskimo	HS-grad	2690.000000	73.000000

#### SQL for Real:

SELECT race, education, SUM(age), COUNT(\*) FROM C1 GROUP BY race, education

Resulted in 80 records

### SQL for Synthetic:

SELECT race, education, SUM(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, education

Resulted in 77 records

Normalized Euclidean distance for (age): 8.77

Hellinger Distance: 0.052

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#### Real

	native.country	relationship	race	occupation	marital.status	sex	MIN(`hours.per.week`) C	OUNT(*)
1978	Japan	Not-in-family	White	Other-service	Never-married	Female	nan	nan
<b>545</b>	Columbia	Not-in-family	Black	Adm-clerical	Never-married	Female	nan	nan
4058	Taiwan	Own-child	White	Adm-clerical	Never-married	Female	nan	nan
710	Columbia	Own-child	White	Prof-specialty	Married-civ-spouse	Male	nan	nan
4719	United-States	Other-relative	White	Exec-managerial	Married-civ-spouse	Male	40 000000	3 000000

	native.country	relationship	race	occupation	marital.status	sex	MIN(`hours.per.week`)	COUNT(*)
1978	Japan	Not-in-family	White	Other-service	Never-married	Female	39.954135	4
<b>545</b>	Columbia	Not-in-family	Black	Adm-clerical	Never-married	Female	39.969043	3
4058	Taiwan	Own-child	White	Adm-clerical	Never-married	Female	39.980069	2
710	Columbia	Own-child	White	Prof-specialty	Married-civ-spouse	Male	40.023536	1
4719	United-States	Other-relative	White	Exec-managerial	Married-civ-spouse	Male	39.972052	2

SELECT `native.country`,relationship,race,occupation, `marital.status`,sex,MIN(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY `native.country`,relationship,race,occupation, `marital.status`,sex

Resulted in 3833 records

#### SQL for Synthetic:

SELECT `native.country`,relationship,race,occupation, `marital.status`,sex,MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`,relationship,race,occupation, `marital.status`,sex

Resulted in 5475 records

Normalized Euclidean distance for (`hours.per.week`): 40.22

Hellinger Distance: 0.325

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	marital.status	race	SUM(`hours.per.week`)	COUNT(*)
7	Married-AF-spouse	White	1293	33
31	Widowed	Other	337	9
29	Widowed	Asian-Pac-Islander	1370	39
5	Married-AF-spouse	Asian-Pac-Islander	60	1
30	Widowed	Black	6609	193

#### Synthetic

	marital.status	race	SUM('hours.per.week')	COUNT(*)
7	Married-AF-spouse	White	279.452222	7.000000
31	Widowed	Other	359.069962	9.000000
29	Widowed	Asian-Pac-Islander	955.988301	24.000000
5	Married-AF-spouse	Asian-Pac-Islander	nan	nan
30	Widowed	Black	7283.116690	183.000000

# SQL for Real:

SELECT `marital.status`,race,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY `marital.status`,race

Resulted in 33 records

### SQL for Synthetic:

SELECT `marital.status`,race,SUM(`hours.per.week`), COUNT(\*) FROM C1 syn 06 GROUP BY `marital.status`,race

Normalized Euclidean distance for ('hours.per.week'): 5.66

Hellinger Distance: 0.046

	workclass	race	native.country	education	marital.status	sex	occupation	relationship	income S	UM(age) C(	OUNT(*)
101	?	Black	Nicaragua	HS-grad	Never-married	Female	?	Own-child	<=50K	nan	nan
5583	Private	Black	United-States	HS-grad	Married-civ-spouse	Female 1	Machine-op-inspct	Own-child	<=50K	nan	nan
7826	Private	White	Hungary	Masters	Married-civ-spouse	Male	Prof-specialty	Husband	<=50K	nan	nan
2533	Local-gov	White	Ireland	Masters	Never-married	Female	Prof-specialty	Unmarried	<=50K	nan	nan
15890	Self-emp-not-inc	White	United-States	Some-college	Divorced	Female	Craft-repair	Not-in-family	<=50K	nan	nan

#### Synthetic

						- 3							
		workclass	race	native.country	education	marital.status	sex	occupation	relationship	income S	UM(age) C	OUNT(*)	
	101	?	Black	Nicaragua	HS-grad	Never-married	Female	?	Own-child	<=50K	20	1	
	5583	Private	Black	United-States	HS-grad	Married-civ-spouse	Female	Machine-op-inspct	Own-child	<=50K	37	1	
	7826	Private	White	Hungary	Masters	Married-civ-spouse	Male	Prof-specialty	Husband	<=50K	73	2	
	2533	Local-gov	White	Ireland	Masters	Never-married	Female	Prof-specialty	Unmarried	<=50K	31	1	
:	<b>15890</b> S	elf-emp-not-inc	White	United-States	Some-college	Divorced	Female	Craft-repair	Not-in-family	<=50K	41	1	

 $SELECT\ work class, race, `native.country`, education, `marital.status`, sex, occupation, relationship, income, SUM(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY$ workclass,race, `native.country`,education, `marital.status`,sex,occupation,relationship,income

Resulted in 12664 records

# SQL for Synthetic:

SELECT workclass, race, `native.country`, education, `marital.status`, sex, occupation, relationship, income, SUM(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass,race, `native.country`,education, `marital.status`,sex,occupation,relationship,income

Resulted in 17127 records

Normalized Euclidean distance for (age): 64.61

Hellinger Distance: 0.252

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Real native.country workclass occupation SUM(age) COUNT(\*)

race 985 White ? Self-emp-inc Other-service nan 245 Asian-Pac-Islander Puerto-Rico Private Sales 749 Black United-States Federal-gov Prof-specialty 579.000000 14.000000 935 Other United-States Sales 406.000000 16.000000 Private 481 Black Haiti Local-gov Tech-support

Synthetic

native.country workclass occupation SUM(age) COUNT(\*) race 985 ? White Self-emp-inc Other-service 77 2 245 Asian-Pac-Islander Puerto-Rico Private Sales 524 11 **749** United-States Federal-gov Prof-specialty 191 4 Black 935 Other United-States Private Sales 647 25 23 481 Black Haiti Local-gov Tech-support 1

SQL for Real:

SELECT race, `native.country`,workclass,occupation,SUM(age), COUNT(\*) FROM C1 GROUP BY race, `native.country`,workclass,occupation

Resulted in 1475 records

SQL for Synthetic:

SELECT race, `native.country`, workclass, occupation, SUM(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, `native.country`, workclass, occupation

Resulted in 1993 records

Normalized Euclidean distance for (age): 28.14

Hellinger Distance: 0.363

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Real

occupation AVG(fnlwgt) COUNT(\*) sex race Female 121 White Sales 185839.636087 1646.000000 70 Black Adm-clerical 234904.921466 191.000000 Male 37 Asian-Pac-Islander Female Protective-serv 190208.000000 4.000000 99 Other Male Exec-managerial 205629.153846 13.000000 50 Asian-Pac-Islander Male Protective-serv 136641.235294 17.000000

Synthetic

race sex occupation AVG(fnlwgt) COUNT(\*) 121 White Female Sales 181866.219619 70 Black Male Adm-clerical 179218.295175 157 37 Asian-Pac-Islander Female Protective-serv 181613.649040 1 99 Male Exec-managerial 182517.191619 10 Other Protective-serv 174580.186010 50 Asian-Pac-Islander Male

SQL for Real:

 ${\tt SELECT\ race, sex, occupation, AVG(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ race, sex, occupation}$ 

Resulted in 137 records

SQL for Synthetic:

SELECT race,sex,occupation,AVG(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY race,sex,occupation

Resulted in 139 records

Normalized Euclidean distance for (fnlwgt): 11.58

Hellinger Distance: 0.056

Real

	education	sex	workclass	marital.status	native.country	race	relationship	income	MAX(capital)	COUNT(*)
8012	Some-college	Female	Private	Married-civ-spouse	Jamaica	White	Wife	<=50K	nan	nan
23	10th	Female	?	Never-married	United-States	Black	Other-relative	<=50K	nan	nan
3024	Assoc-voc	Male	Private	Never-married	United-States	White	Own-child	<=50K	4416.000000	51.000000
9045	Some-college	Male	Self-emp-not-inc	Divorced	United-States	White	Own-child	<=50K	0.000000	3.000000
5732	HS-grad	Male	?	Never-married	Columbia	White	Not-in-family	<=50K	nan	nan

Synthetic

	education	sex	workclass	marital.status	native.country	race	relationship	income	MAX(capital)	COUNT(*)
80	12 Some-college	e Female	Private	Married-civ-spouse	Jamaica	White	Wife	<=50K	26.496358	1
2	<b>3</b> 10th	Female	?	Never-married	United-States	Black	Other-relative	<=50K	-79.871959	1
30	24 Assoc-voc	Male	Private	Never-married	United-States	White	Own-child	<=50K	254.910793	70
90	<b>45</b> Some-college	Male	Self-emp-not-inc	Divorced	United-States	White	Own-child	<=50K	175.276843	3
57	32 HS-grad	Male	?	Never-married	Columbia	White	Not-in-family	<=50K	-69.984767	1

SQL for Real:

SELECT education,sex,workclass, `marital.status`, `native.country`,race,relationship,income,MAX(capital), COUNT(\*) FROM C1 GROUP BY education,sex,workclass, `marital.status`, `native.country`,race,relationship,income

Resulted in 6863 records

SQL for Synthetic:

SELECT education,sex,workclass, `marital.status`, `native.country`,race,relationship,income,MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY education,sex,workclass, `marital.status`, `native.country`,race,relationship,income

Resulted in 9165 records

Normalized Euclidean distance for (capital): 50.11

	workclass	marital.status	MIN(age)	COUNT(*)
31	Self-emp-inc	Separated	26	25
32	Self-emp-inc	Widowed	33	41
37	Self-emp-not-inc	Never-married	17	613
9	Federal-gov	Married-civ-spouse	22	721
0	?	Divorced	20	270

Synthetic

	workclass	marital.status	MIN(age)	COUNT(*)
31	Self-emp-inc	Separated	26.000000	20.000000
32	Self-emp-inc	Widowed	25.000000	44.000000
<b>37</b>	Self-emp-not-inc	Never-married	17.000000	635.000000
9	Federal-gov	Married-civ-spouse	23.000000	770.000000
0	?	Divorced	19.000000	304.000000

SQL for Real:

SELECT workclass, `marital.status`,MIN(age), COUNT(\*) FROM C1 GROUP BY workclass, `marital.status`

Resulted in 47 records

Resulted in 47 records

Normalized Euclidean distance for (age): 6.86

Hellinger Distance: 0.018

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Real

	education	sex	native.country	race	AVG(age)	COUNT(*)
369	7th-8th	Female	United-States	Black	54.783784	37.000000
263	1st-4th	Male	Cambodia	Asian-Pac-Islander	37.000000	1.000000
663	Bachelors	Female	Columbia	Asian-Pac-Islander	nan	nan
270	1st-4th	Male	Laos	White	nan	nan
781	Bachelors	Male	Portugal	White	46.000000	1.000000

Synthetic

	education	sex	native.country	race	AVG(age)	COUNT(*)
36	<b>9</b> 7th-8th	Female	United-States	Black	56.214286	14
26	3 1st-4th	Male	Cambodia	Asian-Pac-Islander	37.000000	1
66	3 Bachelors	Female	Columbia	Asian-Pac-Islander	43.250000	4
27	<b>0</b> 1st-4th	Male	Laos	White	26.000000	1
78	1 Bachelors	Male	Portugal	White	34.000000	1

SELECT education,sex, `native.country`,race,AVG(age), COUNT(\*) FROM C1 GROUP BY education,sex, `native.country`,race

Resulted in 1171 records

SQL for Synthetic:

SELECT education,sex, `native.country`,race,AVG(age), COUNT(\*) FROM C1 syn 06 GROUP BY education,sex, `native.country`,race

Resulted in 1368 records

Normalized Euclidean distance for (age): 24.76

Hellinger Distance: 0.378

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Real

income MAX(fnlwgt) COUNT(\*)

**0** <=50K 1490400 37155 1 >50K 1226583 11687

Synthetic

income MAX(fnlwgt) COUNT(\*)

**0** <=50K 1461813.868173 44080.000000

1 >50K 1362953.001310 4762.000000

SOL for Real:

SELECT income, MAX(fnlwgt), COUNT(\*) FROM C1 GROUP BY income

Resulted in 2 records

 ${\color{red} \underline{SQL\ for\ Synthetic:}} \\ {\color{red} \underline{SELECT\ income,MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color{red} \underline{NAY(fnlwgt),\ C1\_syn\_06\ GROUP\ BY\ income} \\ {\color$ 

Resulted in 2 records

Normalized Euclidean distance for (fnlwgt): 1.41

Hellinger Distance: 0.137

	native.country income		occupation	relationship sex		education marital.status		workclass SUM(capital) COUNT(*)		
9034	Scotland	<=50K	Other-service	Unmarried	Female	10th	Divorced	Private	nan	nan
10359	United-States	<=50K	Craft-repair	Not-in-family	Male	7th-8th	Divorced	Local-gov	nan	nan
2540	Hungary	<=50K	Craft-repair	Husband	Male	10th	Married-civ-spouse	Private	nan	nan
7539	Puerto-Rico	<=50K	Other-service	Unmarried	Male	12th	Never-married	State-gov	nan	nan
12454	United-States	<=50K	Prof-specialty	Husband	Male	HS-grad	Married-civ-spouse	State-gov	0.000000	3.000000

Synthetic

	native.country	income	occupation	relationship	sex	education	marital.status	workclass	SUM(capital)	COUNT(*)
9034	Scotland	<=50K	Other-service	Unmarried	Female	10th	Divorced	Private	-24.599306	1
10359	United-States	<=50K	Craft-repair	Not-in-family	Male	7th-8th	Divorced	Local-gov	89.013609	1
2540	Hungary	<=50K	Craft-repair	Husband	Male	10th	Married-civ-spouse	Private	76.415721	4
7539	Puerto-Rico	<=50K	Other-service	Unmarried	Male	12th	Never-married	State-gov	-132.054908	1
12454	United-States	<=50K	Prof-specialty	Husband	Male	HS-grad	Married-civ-spouse	State-gov	-296.496987	3

SQL for Real:

 $\label{thm:country:c$ 

Resulted in 10400 records

SQL for Synthetic:

SELECT `native.country`,income,occupation,relationship,sex,education,`marital.status`,workclass,SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`,income,occupation,relationship,sex,education,`marital.status`,workclass

Resulted in 14639 records

Normalized Euclidean distance for (capital): 62.27

Hellinger Distance: 0.26

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			Real			
	marital.status	income	workclass	sex	AVG(capital)	COUNT(*)
70	Married-spouse-absent	<=50K	?	Male	-90.800000	20
90	Married-spouse-absent	>50K	Self-emp-inc	Male	0.000000	1
115	Never-married	>50K	Private	Female	5629.491124	169
134	Separated	<=50K	Self-emp-not-inc	Male	-51.307692	52
31	Married-AF-spouse	<=50K	Private	Female	0.000000	8

Synthetic

	marital.status	income	workclass	sex	AVG(capital)	COUNT(*)
70	Married-spouse-absent	<=50K	?	Male	0.889995	15.000000
90	Married-spouse-absent	>50K	Self-emp-inc	Male	-55.292177	1.000000
115	Never-married	>50K	Private	Female	-19.406831	48.000000
134	Separated	<=50K	Self-emp-not-inc	Male	19.938936	51.000000
31	Married-AF-spouse	<=50K	Private	Female	33.555565	3.000000

SQL for Real:

SELECT `marital.status`,income,workclass,sex,AVG(capital), COUNT(\*) FROM C1 GROUP BY `marital.status`,income,workclass,sex

Resulted in 175 records

SQL for Synthetic:

Resulted in 153 records

Normalized Euclidean distance for (capital): 12.25

Hellinger Distance: 0.151

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	Real								
	income	native.country	relationship	race	education SU	JM(`hours.per.week`)	COUNT(*)		
391	<=50K	Dominican-Republic	Husband	Asian-Pac-Islander	HS-grad	nan	nan		
1794	<=50K	Scotland	Husband	Black	11th	nan	nan		
1361	<=50K	Peru	Husband	White	1st-4th	nan	nan		
185	<=50K	Canada	Other-relative	White	Bachelors	nan	nan		
1977	<=50K	Thailand	Unmarried	Asian-Pac-Islander	Bachelors	60.000000	1.000000		

# Synthetic

	<b>3</b>							
	income	native.country	relationship	race	education SUM	`hours.per.week`)	COUNT(*)	
391	<=50K	Dominican-Republic	Husband	Asian-Pac-Islander	HS-grad	40.023817	1	
1794	<b>4</b> <=50K	Scotland	Husband	Black	11th	79.914611	2	
1361	L <=50K	Peru	Husband	White	1st-4th	79.879051	2	
185	<=50K	Canada	Other-relative	White	Bachelors	39.995473	1	
1977	7 <=50K	Thailand	Unmarried	Asian-Pac-Islander	Bachelors	80.024028	2	

SQL for Real:

SELECT income, `native.country`, relationship, race, education, SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY income, `native.country`, relationship, race, education Resulted in 2408 records

SQL for Synthetic:

SELECT income, `native.country`,relationship,race,education,SUM(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY income, `native.country`,relationship,race,education

Resulted in 2863 records

Normalized Euclidean distance for ('hours.per.week'): 32.4

	occupation	MAX(capital)	COUNT(*)
4	Exec-managerial	99999	6086
9	Priv-house-serv	25236	242
6	Handlers-cleaners	99999	2072
0	?	99999	2809
3	Craft-repair	99999	6112

Synthetic

	occupation	MAX(capital)	COUNT(*)		
4	Exec-managerial	628.300592	6095.000000		
9	Priv-house-serv	292.403797	223.000000		
6	Handlers-cleaners	523.214732	2129.000000		
0	?	483.749628	2840.000000		
3	Craft-repair	371.249158	5926.000000		

 $\underline{\underline{SOL\ for\ Real:}}\\ SELECT\ occupation, MAX (capital),\ COUNT (*)\ FROM\ C1\ GROUP\ BY\ occupation$ 

Resulted in 15 records

 ${\color{red} \underline{SOL\ for\ Synthetic:}} \\ {\color{red} \underline{SELECT\ occupation,MAX(capital),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ occupation} \\$ 

Resulted in 15 records

Normalized Euclidean distance for (capital): 3.87

Hellinger Distance: 0.027

Real

	income	native.country	occupation	education	relationship	marital.status	AVG(capital)	COUNT(*)
344	<=50K	?	Prof-specialty	Masters	Not-in-family	Separated	0.000000	1.000000
942	<=50K	Columbia	Other-service	Assoc-voc	Husband	Married-civ-spouse	nan	nan
5310	<=50K	Puerto-Rico	Sales	HS-grad	Other-relative	Widowed	nan	nan
8994	>50K	United-States	Prof-specialty	Doctorate	Not-in-family	Divorced	3019.818182	11.000000
6925	<=50K	United-States	Handlers-cleaners	Some-college	Husband	Married-civ-spouse	195.215190	79.000000

Synthetic

	income	native.country	occupation	education	relationship	marital.status	AVG(capital)	COUNT(*)
344	<=50K	?	Prof-specialty	Masters	Not-in-family	Separated	153.970754	1
942	<=50K	Columbia	Other-service	Assoc-voc	Husband	Married-civ-spouse	8.134245	3
5310	<=50K	Puerto-Rico	Sales	HS-grad	Other-relative	Widowed	116.307822	1
8994	₹ >50K	United-States	Prof-specialty	Doctorate	Not-in-family	Divorced	-83.057868	4
6925	<=50K	United-States	Handlers-cleaners	Some-college	Husband	Married-civ-spouse	0.953003	58

SELECT income, `native.country`,occupation,education,relationship, `marital.status`,AVG(capital), COUNT(\*) FROM C1 GROUP BY income, 'native.country', occupation, education, relationship, 'marital.status'

Resulted in 6304 records

SQL for Synthetic:

SELECT income, `native.country`,occupation,education,relationship, `marital.status`,AVG(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY income, `native.country`, occupation, education, relationship, `marital.status` income, and `native.country`, occupation, education, relationship, `marital.status` income, education, relationship, `marital.status` income, education, educatio

Resulted in 9107 records

Normalized Euclidean distance for (capital): 50.49

Hellinger Distance: 0.281

Real

	workclass	marital.status	race	income	education	native.country	sex	occupation	relationship	MIN(capital)	COUNT(*)
5081	Private	Divorced	White	<=50K	HS-grad	United-States	Male	Sales	Not-in-family	-1669.000000	37.000000
10933	Private	Never-married	White	<=50K	Bachelors	United-States	Male	?	Not-in-family	nan	nan
<b>15493</b> S	Self-emp-not-inc	Never-married	White	<=50K	9th	Puerto-Rico	Male	Exec-managerial	Unmarried	nan	nan
12826	Private	Separated	White	<=50K	HS-grad	Nicaragua	Female	Adm-clerical	Not-in-family	nan	nan
12446	Private	Separated	Black	<=50K	HS-grad	Puerto-Rico	Female	Machine-op-inspct	Not-in-family	nan	nan

Synthetic

	workclass	marital.status	race	income	education	native.country	sex	occupation	relationship	MIN(capital)	COUNT(*)
5081	Private	Divorced	White	<=50K	HS-grad	United-States	Male	Sales	Not-in-family	-104.632923	14
10933	Private	Never-married	White	<=50K	Bachelors	United-States	Male	?	Not-in-family	-44.890722	1
15493	Self-emp-not-inc	Never-married	White	<=50K	9th	Puerto-Rico	Male	Exec-managerial	Unmarried	-117.521361	1
12826	Private	Separated	White	<=50K	HS-grad	Nicaragua	Female	Adm-clerical	Not-in-family	-228.399526	1
12446	Private	Separated	Black	<=50K	HS-grad	Puerto-Rico	Female	Machine-op-inspct	Not-in-family	25.810966	1

SOL for Real:

SELECT workclass, `marital.status`,race,income,education, `native.country`,sex,occupation,relationship,MIN(capital), COUNT(\*) FROM C1 GROUP BY workclass, `marital.status`,race,income,education, `native.country`,sex,occupation,relationship

Resulted in 12664 records

#### SQL for Synthetic:

 $SELECT\ workclass, `marital.status', race, income, education, `native.country', sex, occupation, relationship, MIN(capital), COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ workclass, `marital.status', race, income, education, `native.country', sex, occupation, relationship$ 

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.252

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	occupation	sex	relationship	marital.status	native.country	workclass	education	income	race	SUM('hours.per.week')	COUNT(*)
17073	Γransport-moving	Male	Unmarried	Divorced	Puerto-Rico	Private	Some-college	<=50K	White	nan	nan
341	?	Female	Unmarried	Divorced	United-States	?	Assoc-acdm	<=50K	White	1.000000	1.000000
9876	Other-service	Female	Unmarried	Divorced	Germany	Private	Some-college	<=50K	White	nan	nan
273	?	Female	Own-child	Never-married	Puerto-Rico	?	Some-college	<=50K	White	nan	nan
2618	Adm-clerical	Male	Husband	Married-civ-spouse	United-States	Local-gov	Assoc-acdm	<=50K	Black	nan	nan

#### Synthetic

	occupation	sex	relationship	marital.status	native.country	workclass	education	income race	SUM(`hours.per.week`	) COUNT(*)
17073	Transport-moving	Male	Unmarried	Divorced	Puerto-Rico	Private	Some-college	<=50K White	39.999859	1
341	?	Female	Unmarried	Divorced	United-States	?	Assoc-acdm	<=50K White	80.085244	2
9876	Other-service	Female	Unmarried	Divorced	Germany	Private	Some-college	<=50K White	40.040348	1
273	?	Female	Own-child	Never-married	Puerto-Rico	?	Some-college	<=50K White	471.532390	12
2618	Adm-clerical	Male	Husband	Married-civ-spouse	United-States	Local-gov	Assoc-acdm	<=50K Black	39.983237	1

#### SOL for Real

SELECT occupation,sex,relationship, `marital.status`, `native.country`,workclass,education,income,race,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY occupation,sex,relationship, `marital.status`, `native.country`,workclass,education,income,race

Resulted in 12664 records

#### SQL for Synthetic:

SELECT occupation, sex, relationship, 'marital.status', 'native.country', workclass, education, income, race, SUM('hours.per.week'), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, sex, relationship, 'marital.status', 'native.country', workclass, education, income, race

Resulted in 17127 records

Normalized Euclidean distance for (`hours.per.week`): 64.61

Hellinger Distance: 0.252

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#### Real

		sex	education	occupation	workclass	marital.status	MAX(`hours.per.week`)	) COUNT(*)
	3178	Male	HS-grad	Sales	Self-emp-inc	Widowed	45.000000	2.000000
	<b>47</b>	Female	10th	Handlers-cleaners	Private	Never-married	34.000000	3.000000
	3295	Male	Masters	Handlers-cleaners	Private	Married-civ-spouse	46.000000	1.000000
:	1377	Female	Prof-school	Exec-managerial	Private	Never-married	40.000000	1.000000
:	1540	Female	Some-college	Other-service	Local-gov	Divorced	45.000000	9.000000

# Synthetic

	sex	education	occupation	workclass	marital.status	MAX(`hours.per.week`)	COUNT(*)
3178	Male	HS-grad	Sales	Self-emp-inc	Widowed	39.925747	1
47	Female	10th	Handlers-cleaners	Private	Never-married	40.020518	5
3295	Male	Masters	Handlers-cleaners	Private	Married-civ-spouse	40.019872	4
1377	' Female	Prof-school	Exec-managerial	Private	Never-married	40.009540	1
1540	Female	Some-college	Other-service	Local-gov	Divorced	40.032732	6

# SQL for Real:

SELECT sex,education,occupation,workclass, `marital.status`,MAX(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY sex,education,occupation,workclass, `marital.status` Resulted in 3644 records

# SQL for Synthetic:

SELECT sex,education,occupation,workclass, `marital.status`,MAX(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex,education,occupation,workclass, `marital.status`

Resulted in 3741 records

Normalized Euclidean distance for (`hours.per.week`): 51.15

 $Hellinger\ Distance:\ 0.105$ 

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	native.country	income	workclass	sex	occupation	relationship	marital.status	education	SUM(capital)	COUNT(*)
8367	Puerto-Rico	<=50K	State-gov	Male	Adm-clerical	Own-child	Never-married	HS-grad	nan	nan
11056	United-States	<=50K	Private	Female	Other-service	Not-in-family	Divorced	5th-6th	0.000000	2.000000
3094	India	<=50K	Self-emp-not-inc	Female	Farming-fishing	Wife	Never-married	Assoc-voc	nan	nan
12074	United-States	<=50K	Private	Male	Machine-op-inspct	Husband	Never-married	HS-grad	nan	nan
10588	United-States	<=50K	Private	Female	Adm-clerical	Not-in-family	Never-married	12th	0.000000	2.000000

	native.country	income	workclass	sex	occupation	relationship	marital.status	education	SUM(capital)	COUNT(*)
8367	Puerto-Rico	<=50K	State-gov	Male	Adm-clerical	Own-child	Never-married	HS-grad	-29.688122	1
11056	United-States	<=50K	Private	Female	Other-service	Not-in-family	Divorced	5th-6th	-48.462160	1
3094	India	<=50K	Self-emp-not-inc	Female	Farming-fishing	Wife	Never-married	Assoc-voc	33.565662	1
12074	United-States	<=50K	Private	Male	Machine-op-inspct	Husband	Never-married	HS-grad	-80.726735	1
10588	United-States	<=50K	Private	Female	Adm-clerical	Not-in-family	Never-married	12th	316.195616	5

#### SQL for Real

SELECT `native.country`, income, workclass, sex, occupation, relationship, `marital.status`, education, SUM(capital), COUNT(\*) FROM C1 GROUP BY `native.country`, income, workclass, sex, occupation, relationship, `marital.status`, education

Resulted in 10400 records

#### SQL for Synthetic:

SELECT 'native.country', income, workclass, sex, occupation, relationship, 'marital.status', education, SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY 'native.country', income, workclass, sex, occupation, relationship, 'marital.status', education

Resulted in 14639 records

Normalized Euclidean distance for (capital): 62.27

Hellinger Distance: 0.26

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#### Rea

	sex	native.country	SUM(`hours.per.week	(a) COUNT(*)
41	Female	Yugoslavia	156	5
36	Female	Taiwan	646	19
38	Female	Trinadad&Tobago	487	14
59	Male	Hungary	498	12
5	Female	Cuba	1802	50

#### Synthetic

	sex	native.country	SUM(`hours.per.week`)	COUNT(*)
41	Female	Yugoslavia	3280.454909	82.000000
36	Female	Taiwan	2551.638069	64.000000
38	Female	Trinadad&Tobago	119.059441	3.000000
<b>59</b>	Male	Hungary	29312.906923	731.000000
5	Female	Cuba	119.971744	3.000000

# SQL for Real:

SELECT sex, `native.country`, SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY sex, `native.country`

Resulted in 83 records

### SQL for Synthetic:

 $SELECT\ sex, `native.country`, SUM(`hours.per.week`),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ sex, `native.per.week`),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ sex, `native.per.$ 

Resulted in 79 records

Normalized Euclidean distance for ('hours.per.week'): 8.83

Hellinger Distance: 0.399

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#### Real

	marital.status	education	AVG(age)	COUNT(*)
97	Widowed	Bachelors	56.472000	125
11	Divorced	HS-grad	42.537666	2416
15	Divorced	Some-college	42.214103	1560
7	Divorced	Assoc-acdm	41.628571	280
12	Divorced	Masters	46.871935	367

#### Synthetic

		- J	-	
	marital.status	education	AVG(age)	COUNT(*)
97	Widowed	Bachelors	56.913386	127.000000
11	Divorced	HS-grad	42.244996	2498.000000
15	Divorced	Some-college	42.399467	1502.000000
7	Divorced	Assoc-acdm	40.063830	282.000000
12	Divorced	Masters	46.022556	399.000000

### SQL for Real:

SELECT `marital.status`,education,AVG(age), COUNT(\*) FROM C1 GROUP BY `marital.status`,education

Resulted in 104 records

#### SQL for Synthetic:

SELECT `marital.status`,education,AVG(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY `marital.status`,education

Resulted in 101 records

Normalized Euclidean distance for (age): 10.0

Hellinger Distance: 0.034

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# relationship SUM(`hours.per.week`) COUNT(\*)

5	Wife	85617	2331
1	Not-in-family	509987	12583
3	Own-child	251253	7581
2	Other-relative	55915	1506
4	Unmarried	200759	5125

# Synthetic

	relationship	SUM	`hours.per.week`	) COUNT(*)
--	--------------	-----	------------------	------------

5	Wife	99106.834118	2479.000000
1	Not-in-family	497260.007983	12433.000000
3	Own-child	326930.781923	8227.000000
2	Other-relative	53879.800868	1351.000000
4	Unmarried	199780.219536	4999.000000

#### SQL for Real:

SELECT relationship, SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY relationship

 ${\color{red} \underline{SQL\ for\ Synthetic:}\atop SELECT\ relationship,SUM(`hours.per.week`),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ relationship}$ 

Normalized Euclidean distance for (`hours.per.week`): 2.45

Hellinger Distance: 0.015

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	sex	relationship	native.country	marital.status	workclass	MAX(capital)	COUNT(*)
<b>796</b>	Female	Unmarried	Ireland	Never-married	Local-gov	nan	nan
1066	Female	Wife	Philippines	Married-civ-spouse	Self-emp-not-inc	nan	nan
522	Female	Own-child	Haiti	Never-married	Local-gov	0.000000	1.000000
771	Female	Unmarried	$Holand\hbox{-}Nether lands$	Never-married	Local-gov	nan	nan
1433	Male	Not-in-family	Laos	Separated	Private	nan	nan

#### Synthetic

	sex	relationship	native.country	marital.status	workclass	MAX(capital)	COUNT(*)
796	Female	Unmarried	Ireland	Never-married	Local-gov	113.084300	3
1066	6 Female	Wife	Philippines	Married-civ-spouse S	Self-emp-not-inc	285.861586	2
522	Female	Own-child	Haiti	Never-married	Local-gov	162.814864	4
771	Female	Unmarried	Holand-Netherlands	Never-married	Local-gov	-58.475034	1
1433	B Male	Not-in-family	Laos	Separated	Private	127.435551	5

### SQL for Real:

 $SELECT\ sex, relationship, `native.country', `marital.status', workclass, MAX (capital),\ COUNT (*)\ FROM\ C1\ GROUP\ BY (Capital),\ C1\ GROUP\ BY (Capital),\ C2\ GROUP\ BY (Capital),\ C3\ GROUP\ BY (Capital),\ C4\ GROUP\ BY (Capital),\ C4\ GROUP\ BY (Capital),\ C4\ GROUP\ BY (Capital),\ C4\ GROUP$ sex, relationship, `native.country`, `marital.status`, workclass

Resulted in 1609 records

# $\underline{SQL\ for\ Synthetic:}$

 $SELECT\ sex, relationship, `native.country`, `marital.status`, workclass, MAX (capital),\ COUNT (*)\ FROM\ C1\_syn\_06\ GROUP\ BY (capital),\ C1\_syn$ sex, relationship, `native.country`, `marital.status`, workclass

Resulted in 2047 records

Normalized Euclidean distance for (capital): 28.3

Hellinger Distance: 0.373

#### Real

	sex	native.country	education	income	marital.status	workclass	relationship	race	occupation	AVG(age)	COUNT(*)
13628	Male	United-States	10th	>50K	Married-civ-spouse	Private	Husband	White	Prof-specialty	nan	nan
8521	Male	Columbia	HS-grad	<=50K	Never-married	Private	Not-in-family	White	Transport-moving	nan	nan
16613	Male	United-States	Some-college	<=50K	Married-civ-spouse	Local-gov	Husband	White	Prof-specialty	38.800000	5.000000
3936	Female	Puerto-Rico	Masters	<=50K	Divorced	Private	Not-in-family	White	Tech-support	nan	nan
159	Female	?	HS-grad	<=50K	Divorced	Private	Not-in-family	White	Adm-clerical	nan	nan

#### Synthetic

	sex	native.country	education	income	marital.status	workclass	relationship	race	occupation	AVG(age)	COUNT(*)
13628	Male	United-States	10th	>50K	Married-civ-spouse	Private	Husband	White	Prof-specialty	59.000000	1
8521	Male	Columbia	HS-grad	<=50K	Never-married	Private	Not-in-family	White	Transport-moving	40.750000	8
16613	Male	United-States	Some-college	<=50K	Married-civ-spouse	Local-gov	Husband	White	Prof-specialty	51.333333	3
3936	Female	Puerto-Rico	Masters	<=50K	Divorced	Private	Not-in-family	White	Tech-support	50.000000	1
159	Female	?	HS-grad	<=50K	Divorced	Private	Not-in-family	White	Adm-clerical	29.000000	2

# SQL for Real:

SELECT sex, `native.country`,education,income, `marital.status`,workclass,relationship,race,occupation,AVG(age), COUNT(\*) FROM C1 GROUP BY sex, `native.country`, education, income, `marital.status`, workclass, relationship, race, occupation

Resulted in 12664 records

# SQL for Synthetic:

SELECT sex, `native.country`,education,income, `marital.status`,workclass,relationship,race,occupation,AVG(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, `native.country`,education,income, `marital.status`,workclass,relationship,race,occupation

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#### Real

	sex	native.country	income	MIN(fnlwgt)	COUNT(*)
116	Male	Iran	<=50K	59469	27
108	Male	Honduras	<=50K	149640	8
29	Female	Honduras	>50K	51835	1
63	Female	Scotland	<=50K	89813	7
153	Male	Trinadad&Tobago	>50K	154863	2

#### Synthetic

	sex	native.country	income	MIN(fnlwgt)	COUNT(*)
116	Male	Iran	<=50K	179545.975184	146.000000
108	Male	Honduras	<=50K	nan	nan
29	Female	Honduras	>50K	nan	nan
63	Female	Scotland	<=50K	179547.146430	232.000000
153	Male	Trinadad&Tobago	>50K	nan	nan

#### SQL for Real:

SELECT sex, 'native.country', income, MIN(fnlwgt), COUNT(\*) FROM C1 GROUP BY sex, 'native.country', income

Resulted in 160 records

SQL for Synthetic:

SELECT sex, `native.country`,income,MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, `native.country`,income

Resulted in 130 records

Normalized Euclidean distance for (fnlwgt): 11.18

Hellinger Distance: 0.415

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# Real

	occupation	relationship	marital.status	education	race	native.country	MIN(capital)	COUNT(*)
837	6 Protective-serv	Not-in-family	Never-married	Bachelors	White	United-States	-1876.000000	18.000000
955	4 Tech-support	Husband	Married-civ-spouse	Assoc-acdm	White	Ecuador	nan	nan
229	1 Craft-repair	Husband	Married-civ-spouse	Some-college	Black	Columbia	nan	nan
454	5 Handlers-cleaners	Not-in-family	Never-married	12th	White	Columbia	nan	nan
991	7 Tech-support	Unmarried	Divorced	HS-grad	White	United-States	0.000000	23.000000

#### Synthetic

	occupation	relationship	marital.status	education	race	native.country	MIN(capital)	COUNT(*)
8376	Protective-serv	Not-in-family	Never-married	Bachelors	White	United-States	-195.937056	8
9554	Tech-support	Husband	Married-civ-spouse	Assoc-acdm	White	Ecuador	-132.986368	2
2291	Craft-repair	Husband	Married-civ-spouse	Some-college	Black	Columbia	-13.495988	1
<b>4545</b> H	Handlers-cleaners	Not-in-family	Never-married	12th	White	Columbia	108.969914	1
9917	Tech-support	Unmarried	Divorced	HS-grad	White	United-States	-4.834948	5

# SQL for Real:

 ${\tt SELECT\ occupation, relationship, `marital. status', education, race, `native. country', MIN(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY}$ occupation, relationship, 'marital.status', education, race, 'native.country'

Resulted in 7243 records

## SQL for Synthetic:

SELECT occupation, relationship, `marital.status`, education, race, `native.country`, MIN(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, relationship, `marital.status`, education, race, `native.country`

Resulted in 10524 records

Normalized Euclidean distance for (capital): 52.81

Hellinger Distance: 0.251

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# Real

	income	marital.status	occupation	MAX(fnlwgt)	COUNT(*)
26	<=50K	Married-civ-spouse	Craft-repair	864960	2566
105	>50K	Divorced	Sales	456236	87
128	>50K	Married-civ-spouse	Tech-support	617021	356
82	<=50K	Widowed	Adm-clerical	953588	238
155	>50K	Separated	Craft-repair	352045	9

#### Synthetic

	ıncome	marital.status	occupation	MAX(fnlwgt)	COUNT(*)
26	<=50K	Married-civ-spouse	Craft-repair	1461813.868173	3208.000000
105	>50K	Divorced	Sales	184911.649640	16.000000
128	>50K	Married-civ-spouse	Tech-support	196184.321460	185.000000
82	<=50K	Widowed	Adm-clerical	1340361.588728	283.000000
155	>50K	Separated	Craft-repair	182946.894151	6.000000

 $\begin{array}{l} \underline{SQL\ for\ Real:} \\ \underline{SELECT\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation \\ \underline{SELECT\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, MAX(fnlwgt),\ C1\ GROUP\ BY\ income, MAX($ 

#### SQL for Synthetic:

 $SELECT\ income, `marital.status`, occupation, MAX(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ income, `marital.status`, occupation, and the status', occupation of the status of the$ 

Resulted in 159 records

Normalized Euclidean distance for (fnlwgt): 12.25

Hellinger Distance: 0.159

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#### Real

race	education	income	native.country	MIN(fnlwgt)	COUNT(*)
<b>885</b> White	Bachelors	<=50K	Greece	96062.000000	2.000000
<b>861</b> White	Assoc-voc	<=50K	United-States	13769.000000	1243.000000
<b>868</b> White	Assoc-voc	>50K	Ireland	nan	nan
269 Black	11th	<=50K	Japan	nan	nan
<b>661</b> White	11th	>50K	?	118474.000000	1.000000

#### Synthetic

#### race education income native.country MIN(fnlwgt) COUNT(\*) 885 White Bachelors <=50K Greece 184431.189179 **861** White Assoc-voc <=50K United-States 133670.530895 906 868 White Assoc-voc >50K 178494.159521 3 Ireland 269 Black 11th <=50K Japan 177913.690013 3 **661** White 11th >50K ? 165472.155317 1

#### SQL for Real:

SELECT race, education, income, `native.country`, MIN(fnlwgt), COUNT(\*) FROM C1 GROUP BY race, education, income, `native.country`

Resulted in 1070 records

SQL for Synthetic:

SELECT race,education,income, `native.country`,MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY race,education,income, `native.country`

Resulted in 1158 records

Normalized Euclidean distance for (fnlwgt): 23.52

Hellinger Distance: 0.4

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#### Real

	race	workclass	SUM(capital)	COUNT(*)
4	Amer-Indian-Eskimo	Self-emp-inc	17909	2
28	White	?	1042877	2337
9	Asian-Pac-Islander	Local-gov	113856	59
19	Black	Self-emp-not-inc	236814	136
22	Other	Federal-gov	1506	11

#### Synthetic

	race	workclass	SUM(capital)	COUNT(*)
4	Amer-Indian-Eskimo	Self-emp-inc	nan	nan
28	White	?	1797.469440	2460.000000
9	Asian-Pac-Islander	Local-gov	1368.861830	50.000000
19	Black	Self-emp-not-inc	1065.757357	93.000000
22	Other	Federal-gov	190.408563	6.000000

### SQL for Real:

SELECT race, workclass, SUM(capital), COUNT(\*) FROM C1 GROUP BY race, workclass

Resulted in 35 records

SQL for Synthetic:

SELECT race,workclass,SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY race,workclass

Resulted in 34 records

Normalized Euclidean distance for (capital): 5.83

Hellinger Distance: 0.044

#### Real

	occupation	workclass	relationship	race	MIN(fnlwgt)	COUNT(*)
652	Other-service	Private	Wife	Black	24364	30
393	Farming-fishing	Local-gov	Not-in-family	White	70655	5
839	Prof-specialty	State-gov	Own-child	Black	122660	3
1128	Transport-moving	Private	Unmarried	White	22422	83
700	Other-service	State-gov	Unmarried	Black	73296	13

#### Synthetic

	occupation	workclass	relationship	race	MIN(fnlwgt)	COUNT(*)
652	Other-service	Private	Wife	Black	162351.735777	31.000000
393	Farming-fishing	Local-gov	Not-in-family	White	179009.244679	7.000000
839	Prof-specialty	State-gov	Own-child	Black	171586.887237	4.000000
1128	Transport-moving	Private	Unmarried	White	162713.078888	80.000000
700	Other-service	State-gov	Unmarried	Black	149395.201919	15.000000

#### SQL for Real

Resulted in 1160 records

#### SQL for Synthetic:

SELECT occupation, workclass, relationship, race, MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, workclass, relationship, race

Resulted in 1122 records

Normalized Euclidean distance for (fnlwgt): 30.2

Hellinger Distance: 0.081

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workclass	marital.status	occupation	MAX(capital)	COUNT(*)
348 Self-emp-not-in	c Never-married	Adm-clerical	2174.000000	19.000000
319 Self-emp-not-in	c Divorced	Prof-specialty	99999.000000	69.000000
405 State-gov	Married-civ-spouse	Sales	99999.000000	9.000000
332 Self-emp-not-in	c Married-civ-spouse	Other-service	15024.000000	106.000000
350 Self-emp-not-in	c Never-married	Exec-managerial	99999.000000	48.000000

#### Synthetic

workclass	marital.status	occupation	MAX(capital)	COUNT(*
348 Self-emp-not-inc	Never-married	Adm-clerical	177.720661	19
319 Self-emp-not-inc	Divorced	Prof-specialty	283.114941	58
405 State-gov	Married-civ-spouse	Sales	58.701632	7
332 Self-emp-not-inc	Married-civ-spouse	Other-service	198.597981	108
350 Self-emp-not-inc	Never-married	Exec-managerial	193.928158	59

#### SQL for Real:

 $\overline{\text{SELECT workclass, `marital.status', occupation, MAX(capital), COUNT(*) FROM C1 GROUP BY workclass, `marital.status', occupation}$ 

Resulted in 423 records

# SQL for Synthetic:

SELECT workclass, `marital.status`,occupation,MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass, `marital.status`,occupation

Resulted in 447 records

Normalized Euclidean distance for (capital): 19.52

Hellinger Distance: 0.049

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Real

# income MAX(age) COUNT(\*)

0	<=50K	90	37155
1	>50K	90	11687

Synthetic

# income MAX(age) COUNT(\*)

**0** <=50K 90.000000 44080.000000

1 >50K 90.000000 4762.000000

### SQL for Real:

SELECT income, MAX(age), COUNT(\*) FROM C1 GROUP BY income

Resulted in 2 records

# SQL for Synthetic:

SELECT income, MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY income

Resulted in 2 records

Normalized Euclidean distance for (age): 1.41

Hellinger Distance: 0.137

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#### Real

	sex	race	education	income	native.country	relationship	MAX(age)	COUNT(*)
150	<b>5</b> Female	White	Masters	<=50K	Peru	Unmarried	nan	nan
295	1 Male	White	Assoc-voc	<=50K	Peru	Own-child	nan	nan
108	9 Female	White	Assoc-voc	<=50K	Ireland	Wife	nan	nan
183	5 Male	Asian-Pac-Islander	5th-6th	<=50K	United-States	Husband	78.000000	2.000000
162	8 Female	White	Some-college	<=50K	Holand-Netherlands	Unmarried	nan	nan

# Synthetic

	sex	race	education	income	native.country	relationship	MAX(age)	COUNT(*)
150	5 Female	White	Masters	<=50K	Peru	Unmarried	47	4
295	1 Male	White	Assoc-voc	<=50K	Peru	Own-child	21	1
108	9 Female	White	Assoc-voc	<=50K	Ireland	Wife	30	1
183	5 Male	Asian-Pac-Islander	5th-6th	<=50K	United-States	Husband	71	2
162	8 Female	White	Some-college	<=50K	Holand-Netherlands	Unmarried	24	3

# SQL for Real:

 $SELECT\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, MAX(age),\ C1\ GROUP\ BY\ sex, race, education, income, `native.country`, relationship, and `native.country`, relationship, and `nativ$ 

Resulted in 2920 records

# SQL for Synthetic:

SELECT sex,race,education,income, `native.country`,relationship,MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex,race,education,income, `native.country`,relationship Resulted in 3549 records

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	Total								
	race	income	workclass	education	marital.status	occupation	native.country	SUM(`hours.per.week`)	COUNT(*)
6878	White	<=50K	Private	HS-grad	Divorced	Adm-clerical	Ecuador	nan	nan
7201	White	<=50K	Private	HS-grad	Married-civ-spouse	Transport-moving	Holand-Netherlands	nan	nan
11469	White	>50K	Self-emp-not-inc	HS-grad	Married-civ-spouse	Farming-fishing	United-States	2087.000000	36.000000
3347	White	<=50K	?	HS-grad	Married-civ-spouse	?	Columbia	nan	nan
7123	White	<=50K	Private	HS-grad	Married-civ-spouse	Machine-op-inspct	Puerto-Rico	90.000000	2.000000

Synthetic

	race	income	workclass	education	marital.status	occupation	native.country	SUM(`hours.per.week`)	COUNT(*)
6878	White	<=50K	Private	HS-grad	Divorced	Adm-clerical	Ecuador	40.025527	1
7201	White	<=50K	Private	HS-grad	Married-civ-spouse	Transport-moving	Holand-Netherlands	40.031101	1
11469	White	>50K	Self-emp-not-inc	HS-grad	Married-civ-spouse	Farming-fishing	United-States	322.841140	8
3347	White	<=50K	?	HS-grad	Married-civ-spouse	?	Columbia	280.117099	7
7123	White	<=50K	Private	HS-grad	Married-civ-spouse	Machine-op-inspct	Puerto-Rico	5639.492177	141

#### SQL for Real:

SELECT race,income,workclass,education, `marital.status`,occupation, `native.country`,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY race,income,workclass,education, `marital.status`,occupation, `native.country`

Resulted in 8403 records

#### SQL for Synthetic:

 $SELECT\ race, income, work class, education, `marital.status`, occupation, `native.country`, SUM(`hours.per.week`), COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ race, income, work class, education, `marital.status`, occupation, `native.country`$ 

Resulted in 11619 records

Normalized Euclidean distance for (`hours.per.week`): 55.59

Hellinger Distance: 0.265

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Real

#### education AVG(`hours.per.week`) COUNT(\*) 12th 35.374429 657 7th-8th 39.003141 955 40.640775 15784 11 HS-grad 33.952539 1812 11th 8 Assoc-voc 41.658418 2061

# Synthetic

	education A	VG(`hours.per.week`)	COUNT(*)	
2	12th	39.758112	626.000000	
5	7th-8th	39.877692	781.000000	
11	HS-grad	39.993373	16455.000000	
1	11th	39.755015	1694.000000	

40.023089

# 8 Assoc-voc SQL for Real:

SELECT education, AVG(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY education

Resulted in 16 records

# SQL for Synthetic:

SELECT education, AVG(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY education

1935.000000

Resulted in 16 records

Normalized Euclidean distance for ('hours.per.week'): 4.0

Hellinger Distance: 0.026

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Real

	occupation	AVG(`hours.per.week`)	COUNT(
13	Tech-support	39.720609	1446
3	Craft-repair	42.269306	6112
1	Adm-clerical	37.708073	5611
6	Handlers-cleaners	37.911197	2072
10	Prof-specialty	42 282890	6172

#### Synthetic

	occupation	AVG( nours.per.week )	COUNT(*)
13	Tech-support	39.971780	1463.000000
3	Craft-repair	40.002931	5926.000000
1	Adm-clerical	39.902178	5729.000000
6	Handlers-cleaners	39.878155	2129.000000
10	Prof-specialty	40.051494	6213.000000

# SQL for Real:

SELECT occupation, AVG(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY occupation

SQL for Synthetic:

SELECT occupation, AVG(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation

Resulted in 15 records

Normalized Euclidean distance for (`hours.per.week`): 3.87

Hellinger Distance: 0.027

		occupation	sex	native.country	${\bf education}$	relationship	AVG(capital)	COUNT(*)
4	646	Prof-specialty	Female	Germany	Assoc-acdm	Own-child	nan	nan
2	606	Farming-fishing	Male	Laos	10th	Own-child	nan	nan
8	339	Adm-clerical	Female	Puerto-Rico	Masters	Wife	nan	nan
4	224	Other-service	Male	Ireland	Bachelors	Husband	nan	nan
2	993	Handlers-cleaners	Male	Outlying-US(Guam-USVI-etc)	HS-grad	Husband	nan	nan

### Synthetic

		occupation	sex	native.country	education	relationship	AVG(capital)	COUNT(*)
40	646	Prof-specialty	Female	Germany	Assoc-acdm	Own-child	25.533381	1
20	606	Farming-fishing	Male	Laos	10th	Own-child	-92.751280	1
8	39	Adm-clerical	Female	Puerto-Rico	Masters	Wife	-13.981253	5
42	224	Other-service	Male	Ireland	Bachelors	Husband	62.192245	1
29	993	Handlers-cleaners	Male	Outlying-US(Guam-USVI-etc)	HS-grad	Husband	139.769567	1

#### SQL for Real:

 $SELECT\ occupation, sex, `native.country`, education, relationship, AVG (capital),\ COUNT (*)\ FROM\ C1\ GROUP\ BY\ occupation, sex, `native.country`, education, relationship\ Resulted\ in\ 4565\ records$ 

# SQL for Synthetic:

SELECT occupation,sex, `native.country`,education,relationship,AVG(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation,sex, `native.country`,education,relationship Resulted in 6788 records

Normalized Euclidean distance for (capital): 44.73

Hellinger Distance: 0.268

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#### Real

	race	relationship	income	sex	native.country	marital.status	occupation	education MIN	N(`hours.per.week	c') COUNT(*)
10220	White	Own-child	<=50K	Male	Peru	Never-married	$Handlers\hbox{-}cleaners$	11th	20.000000	1.000000
2783	Black	Unmarried	<=50K	Female	United-States	Divorced	Tech-support	HS-grad	35.000000	2.000000
8118	White	Not-in-family	<=50K	Male	United-States	Never-married	Machine-op-inspct	HS-grad	10.000000	93.000000
9650	White	Own-child	<=50K	Female	Thailand	Married-civ-spouse	?	11th	nan	nan
12250	White	Unmarried	<=50K	Male	United-States	Never-married	Machine-op-inspct	10th	40.000000	1.000000

#### Synthetic

	race	relationship	ıncome	sex	native.country	maritai.status	occupation	education MIN(	nours.per.week	) COUNT(*)
10220	White	Own-child	<=50K	Male	Peru	Never-married	Handlers-cleaners	11th	39.526037	2
2783	Black	Unmarried	<=50K	Female	United-States	Divorced	Tech-support	HS-grad	39.956414	5
8118	White	Not-in-family	<=50K	Male	United-States	Never-married	Machine-op-inspct	HS-grad	39.897268	71
9650	White	Own-child	<=50K	Female	Thailand	Married-civ-spouse	?	11th	39.497325	1
12250	White	Unmarried	<=50K	Male	United-States	Never-married	Machine-op-inspct	10th	40.034386	1

### SQL for Real:

SELECT race, relationship, income, sex, `native.country`, `marital.status`, occupation, education, MIN(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY race, relationship, income, sex, `native.country`, `marital.status`, occupation, education

Resulted in 9390 records

### SQL for Synthetic:

SELECT race, relationship, income, sex, `native.country`, `marital.status`, occupation, education, MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, relationship, income, sex, `native.country`, `marital.status`, occupation, education

Resulted in 13048 records

Normalized Euclidean distance for (`hours.per.week`): 57.52

Hellinger Distance: 0.264

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sex	marital.status	race	${\bf education}$	income	MIN(`hours.per.week`)	COUNT(*)
<b>445</b> Female	Widowed	White	Assoc-acdm	<=50K	3	27
<b>119</b> Female !	Married-civ-spouse	Asian-Pac-Islander	7th-8th	<=50K	48	2
<b>126</b> Female !	Married-civ-spouse	Asian-Pac-Islander	Bachelors	<=50K	5	20
12 Female	Divorced	Asian-Pac-Islander	11th	<=50K	15	1
<b>521</b> Male	Divorced	White	10th	<=50K	12	56

# Synthetic

sex	marital.status	race	education	income MIN	(`hours.per.week	(`) COUNT(*)
<b>445</b> Female	Widowed	White	Assoc-acdm	<=50K	38.958373	21.000000
<b>119</b> Female 1	Married-civ-spouse	Asian-Pac-Islander	7th-8th	<=50K	40.010611	3.000000
<b>126</b> Female 1	Married-civ-spouse	Asian-Pac-Islander	Bachelors	<=50K	39.530760	24.000000
12 Female	Divorced	Asian-Pac-Islander	11th	<=50K	nan	nan
<b>521</b> Male	Divorced	White	10th	<=50K	39.005802	69.000000

SQL for Real:

SELECT sex, `marital.status`,race,education,income,MIN(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY sex, `marital.status`,race,education,income Resulted in 948 records

SQL for Synthetic:

SELECT sex, `marital.status`,race,education,income,MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, `marital.status`,race,education,income Resulted in 774 records

Normalized Euclidean distance for ('hours.per.week'): 26.27

Hellinger Distance: 0.173

Real

		sex	workclass	relationship	MIN(`hours.per.week`)	COUNT(*)
	8	Female	Federal-gov	Own-child	10.000000	42.000000
1	14	Female	Local-gov	Own-child	2.000000	170.000000
(	66	Male	Self-emp-inc	Other-relative	25.000000	10.000000
(	63	Male	Private	Wife	40.000000	2.000000
2	26	Female	Self-emp-inc	Own-child	8.000000	25.000000

Synthetic

	sex	workclass	relationship	MIN(`hours.per.week`)	COUNT(*)
8	Female	Federal-gov	Own-child	38.944736	60
14	Female	Local-gov	Own-child	38.925084	177
66	Male	Self-emp-inc	Other-relative	39.962764	10
63	Male	Private	Wife	39.969150	6
26	Female	Self-emp-inc	Own-child	38.974765	24

SQL for Real:

SELECT sex,workclass,relationship,MIN(`hours.per.week'), COUNT(\*) FROM C1 GROUP BY sex,workclass,relationship

Resulted in 73 records

SQL for Synthetic:

SELECT sex, workclass, relationship, MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, workclass, relationship

Resulted in 80 records

Normalized Euclidean distance for ('hours.per.week'): 8.54

Hellinger Distance: 0.029

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Real

	relationship	race	occupation	education	native.country	sex	income	marital.status	MAX(capital)	COUNT(*)
12567	Wife	White	Adm-clerical	Some-college	Peru	Female	<=50K	Married-civ-spouse	nan	nan
3614	Not-in-family	White	?	Assoc-acdm	Peru	Female	<=50K	Never-married	nan	nan
2985	Not-in-family	Black	Craft-repair	10th	Puerto-Rico	Male	<=50K	Divorced	nan	nan
4645	Not-in-family	White	Exec-managerial	Masters	China	Female	<=50K	Never-married	nan	nan
6986	Other-relative	White	?	7th-8th	Puerto-Rico	Female	<=50K	Never-married	nan	nan

Synthetic

	relationship	race	occupation	education	native.country	sex	income	marital.status	MAX(capital)	COUNT(*)
12567	Wife	White	Adm-clerical	Some-college	Peru	Female	<=50K	Married-civ-spouse	-58.418351	1
3614	Not-in-family	White	?	Assoc-acdm	Peru	Female	<=50K	Never-married	12.795618	1
2985	Not-in-family	Black	Craft-repair	10th	Puerto-Rico	Male	<=50K	Divorced	52.081197	1
4645	Not-in-family	White	Exec-managerial	Masters	China	Female	<=50K	Never-married	-67.791015	1
6986	Other-relative	White	?	7th-8th	Puerto-Rico	Female	<=50K	Never-married	148.859027	1

SQL for Real:

SELECT relationship,race,occupation,education, `native.country`,sex,income, `marital.status`,MAX(capital), COUNT(\*) FROM C1 GROUP BY relationship,race,occupation,education, `native.country`,sex,income, `marital.status`

Resulted in 9390 records

SQL for Synthetic:

SELECT relationship,race,occupation,education, `native.country`,sex,income, `marital.status`,MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY relationship,race,occupation,education, `native.country`,sex,income, `marital.status`

Resulted in 13048 records

Normalized Euclidean distance for (capital): 57.52

Hellinger Distance: 0.264

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Real

	race	relationship	marital.status	income	workclass	native.country	education	MAX(fnlwgt)	COUNT(*)
3360	White	Husband	Married-civ-spouse	>50K	Private	Germany	Bachelors	389843.000000	7.000000
5155	White	Other-relative	Divorced	<=50K	Local-gov	United-States	HS-grad	323829.000000	3.000000
3148	White	Husband	Married-civ-spouse	<=50K	Self-emp-not-inc	United-States	10th	439777.000000	43.000000
3541	White	Husband	Married-civ-spouse	>50K	State-gov	Hungary	Bachelors	nan	nan
1380	Black	Not-in-family	Widowed	<=50K	State-gov	United-States	Masters	nan	nan

	race	relationship	marital.status	ıncome	workclass	native.country	education	MAX(fnlwgt)	COUNT(*)
33	60 White	Husband	Married-civ-spouse	>50K	Private	Germany	Bachelors	184139.440113	1
51	55 White	Other-relative	Divorced	<=50K	Local-gov	United-States	HS-grad	173653.212975	1
31	48 White	Husband	Married-civ-spouse	<=50K	Self-emp-not-inc	United-States	10th	190573.127290	38
35	41 White	Husband	Married-civ-spouse	>50K	State-gov	Hungary	Bachelors	180833.461886	1
13	80 Black	Not-in-family	Widowed	<=50K	State-gov	United-States	Masters	161701.469662	1

#### SQL for Real

 $SELECT\ race, relationship, `marital.status`, income, workclass, `native.country`, education, MAX(fnlwgt), COUNT(*)\ FROM\ C1\ GROUP\ BY\ race, relationship, `marital.status`, income, workclass, `native.country`, education$ 

Resulted in 5799 records

#### SQL for Synthetic:

SELECT race, relationship, `marital.status`, income, workclass, `native.country`, education, MAX(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, relationship, `marital.status`, income, workclass, `native.country`, education

Resulted in 7748 records

Normalized Euclidean distance for (fnlwgt): 46.68

Hellinger Distance: 0.319

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Real

#### workclass SUM(fnlwgt) COUNT(\*)

6	State-gov	360410194	1981
2	Local-gov	596345319	3136
4	Self-emp-inc	303388390	1695
0	?	529802400	2830
1	Federal-gov	262900921	1432

Synthetic

# workclass SUM(fnlwgt) COUNT(\*)

6 State-gov
 2 Local-gov
 567199972.519647
 3105.000000
 4 Self-emp-inc
 284019318.551430
 1645.000000
 2 506616985.296546
 2844.000000

1 Federal-gov 249839978.066589 1426.000000

#### SQL for Real:

SELECT workclass, SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY workclass

Resulted in 7 records

#### SQL for Synthetic:

 $SELECT\ workclass, SUM(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ workclass$ 

Resulted in 7 records

Normalized Euclidean distance for (fnlwgt): 2.65

Hellinger Distance: 0.003

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R	e	a	1

	education	marital.status	income	relationship	MAX(capital)	COUNT(*)
181	9th	Divorced	>50K	Unmarried	99999	1
223	Assoc-acdm	Married-spouse-absent	<=50K	Unmarried	0	8
53	11th	Never-married	<=50K	Not-in-family	4416	170
56	11th	Never-married	<=50K	Unmarried	6849	73
416	Masters	Divorced	>50K	Unmarried	99999	40

#### Synthetic

			Symmet	C		
	education	marital.status	income	relationship	MAX(capital)	COUNT(*)
181	9th	Divorced	>50K	Unmarried	-77.801174	1.000000
223	Assoc-acdm	Married-spouse-absent	<=50K	Unmarried	168.139639	5.000000
<b>53</b>	11th	Never-married	<=50K	Not-in-family	266.105654	130.000000
<b>56</b>	11th	Never-married	<=50K	Unmarried	181.215581	74.000000
416	Masters	Divorced	>50K	Unmarried	84.521630	11.000000

### SQL for Real:

SELECT education, `marital.status`,income,relationship,MAX(capital), COUNT(\*) FROM C1 GROUP BY education, `marital.status`,income,relationship Resulted in 547 records

# SQL for Synthetic:

SELECT education, `marital.status`, income, relationship, MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY education, `marital.status`, income, relationship Resulted in 535 records

Normalized Euclidean distance for (capital): 20.9

Hellinger Distance: 0.166

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				Real		
	marital.status	sex	native.country	race	SUM(`hours.per.week`)	COUNT(*)
34	Divorced	Female	Jamaica	Black	276.000000	7.000000
481	Never-married	Female	United-States	White	184395.000000	5361.000000
650	Separated	Male	Hungary	Black	nan	nan
260	Married-civ-spouse	Male	Ireland	Asian-Pac-Islander	nan	nan
249	Married-civ-spouse	Male	Holand-Netherlands	Black	nan	nan

	marital.status se		native.country	race	SUM(`hours.per.week`) COUNT(*)		
34	Divorced	Female	Jamaica	Black	160.040880	4	
481	Never-married	Female	United-States	White	172040.547291	4324	
650	Separated	Male	Hungary	Black	40.000658	1	
260 N	Married-civ-spouse	Male	Ireland	Asian-Pac-Islander	120.063580	3	
249 Married-civ-spouse		Male	Holand-Netherlands	Black	80.000798	2	

SQL for Real:

SELECT `marital.status`,sex, `native.country`,race,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY `marital.status`,sex, `native.country`,race Resulted in 658 records

SQL for Synthetic: SELECT `marital.status`,sex,`native.country`,race,SUM(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY `marital.status`,sex,`native.country`,race Resulted in 739 records

Normalized Euclidean distance for (`hours.per.week`): 19.44

Hellinger Distance: 0.395

	Real										
	native.country	income	race	marital.status	occupation	relationship	workclass	education	sex	MIN(age)	COUNT(*)
8332	Puerto-Rico	<=50K	White	Married-spouse-absent	Sales	Not-in-family	Private	Masters	Male	nan	nan
14474	United-States	<=50K	White	Never-married	Craft-repair	Not-in-family	Private	Masters	Female	39.000000	1.000000
3334	India	<=50K	White	Never-married	Sales	Other-relative	Private	Some-college	Female	nan	nan
6246	Puerto-Rico	<=50K	Amer-Indian-Eskimo	Divorced	Prof-specialty	Not-in-family	Private	Masters	Female	nan	nan
9575	Puerto-Rico	>50K	White	Married-civ-spouse	?	Husband	?	Assoc-voc	Male	nan	nan

Synthetic

	native.country	income	race	marital.status	occupation	relationship	work class	education	sex	MIN(age)	COUNT(*)
8332	Puerto-Rico	<=50K	White	Married-spouse-absent	Sales	Not-in-family	Private	Masters	Male	49	2
14474	United-States	<=50K	White	Never-married	Craft-repair	Not-in-family	Private	Masters	Female	35	1
3334	India	<=50K	White	Never-married	Sales	Other-relative	Private	Some-college	Female	28	1
6246	Puerto-Rico	<=50K	Amer-Indian-Eskimo	Divorced	Prof-specialty	Not-in-family	Private	Masters	Female	58	1
9575	Puerto-Rico	>50K	White	Married-civ-spouse	?	Husband	?	Assoc-voc	Male	66	1

SQL for Real:

 $SELECT\ `native.country\ `, income, race, `marital.status\ `, occupation, relationship, workclass, education, sex, MIN(age), COUNT(*)\ FROM\ C1\ GROUP\ BY$  $\verb|`native.country'|, income, race, \verb|`marital.status'|, occupation, relationship, work class, education, sex |$ 

Resulted in 12664 records

 $\underline{SQL\ for\ Synthetic:}$ 

 $SELECT\ `native.country\ `, income, race, `marital.status\ `, occupation, relationship, workclass, education, sex, MIN (age), COUNT (*) FROM C1\_syn\_06 GROUP BY (*) FROM$ `native.country`,income,race, `marital.status`,occupation,relationship,workclass,education,sex

Resulted in 17127 records

Normalized Euclidean distance for (age): 64.61

Hellinger Distance: 0.252

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	occupation	relationship	income	sex	MIN('hours.per.week')	COUNT(*)
100	Handlers-cleaners	Husband	<=50K	Male	2	552
84	Farming-fishing	Husband	>50K	Male	2	154
195	Protective-serv	Own-child	<=50K	Male	3	85
85	Farming-fishing	Not-in-family	<=50K	Female	14	25
162	Priv-house-serv	Unmarried	<=50K	Female	4	60

#### Synthetic

		occupation	relationship	income	sex	MIN('hours.per.week')	COUNT(*)
10	00	Handlers-cleaners	Husband	<=50K	Male	38.949391	627.000000
8	4	Farming-fishing	Husband	>50K	Male	39.163313	36.000000
19	95	Protective-serv	Own-child	<=50K	Male	39.478496	95.000000
8	5	Farming-fishing	Not-in-family	<=50K	Female	39.941380	21.000000
10	62	Priv-house-serv	Unmarried	<=50K	Female	39.044383	40.000000

# SQL for Real:

 $SELECT\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, income, sex, MIN(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relation, relati$ 

Resulted in 261 records

#### SQL for Synthetic:

SELECT occupation, relationship, income, sex, MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, relationship, income, sex

Normalized Euclidean distance for ('hours.per.week'): 15.2

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Real

	race	income	education	sex	relationship	workclass	occupation	marital.status	native.country	AVG(fnlwgt)	COUNT(*)
16929	White	>50K	Some-college	Female	Wife	Private	Machine-op-inspct	Married-civ-spouse	United-States	278568.500000	4.000000
3101	Black	<=50K	Some-college	Female	Not-in-family	State-gov	Adm-clerical	Married-spouse-absent	United-States	nan	nan
15987	White	>50K	Bachelors	Female	Wife	Federal-gov	Exec-managerial	Married-civ-spouse	United-States	213226.000000	2.000000
6224	White	<=50K	9th	Male	Husband	Private	Craft-repair	Married-civ-spouse	Peru	nan	nan
9589	White	<=50K	Doctorate	Male	Unmarried	State-gov	Exec-managerial	Never-married	United-States	nan	nan

Synthetic

	race	income	education	sex	relationship	workclass	occupation	marital.status	native.country	AVG(fnlwgt)	COUNT(*)
16929	White	>50K	Some-college	Female	Wife	Private	Machine-op-inspct	Married-civ-spouse	United-States	175637.916397	3
3101	Black	<=50K	Some-college	Female	Not-in-family	State-gov	Adm-clerical	Married-spouse-absent	United-States	158523.784868	1
15987	White	>50K	Bachelors	Female	Wife	Federal-gov	Exec-managerial	Married-civ-spouse	United-States	144973.920821	1
6224	White	<=50K	9th	Male	Husband	Private	Craft-repair	Married-civ-spouse	Peru	179030.389533	3
9589	White	<=50K	Doctorate	Male	Unmarried	State-gov	Exec-managerial	Never-married	United-States	147852.275859	1

SQL for Real:

SELECT race, income, education, sex, relationship, workclass, occupation, `marital.status`, `native.country`, AVG(fnlwgt), COUNT(\*) FROM C1 GROUP BY race, income, education, sex, relationship, workclass, occupation, `marital.status`, `native.country`

Resulted in 12664 records

SQL for Synthetic:

SELECT race, income, education, sex, relationship, workclass, occupation, `marital.status`, `native.country`, AVG(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, income, education, sex, relationship, workclass, occupation, `marital.status`, `native.country`

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.252

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#### Real

#### income workclass MIN(`hours.per.week`) COUNT(\*)

7	>50K	?	1	267
2	<=50K	Local-gov	2	2209
10	>50K	Private	1	7387
3	<=50K	Private	1	26519
0	<=50K	?	1	2563

# Synthetic

# income workclass MIN(`hours.per.week`) COUNT(\*)

7	>50K	?	38.897276	95.000000
2	<=50K	Local-gov	38.913042	2683.000000
10	>50K	Private	38.952368	2930.000000
3	<=50K	Private	38.883397	31092.000000
0	<=50K	?	38.865705	2749.000000

### SQL for Real:

 $SELECT\ income, workclass, MIN (`hours.per.week`),\ COUNT (*)\ FROM\ C1\ GROUP\ BY\ income, workclass$ 

Resulted in 14 records

# SQL for Synthetic:

SELECT income,workclass,MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY income,workclass

Resulted in 14 records

Normalized Euclidean distance for ('hours.per.week'): 3.74

Hellinger Distance: 0.138

### Real

	workclass	education	sex	race	native.country	income MAX	(`hours.per.week`)	COUNT(*)
2305	Private	HS-grad	Male	White	Hungary	>50K	nan	nan
634	Federal-gov	Masters	Male	White	Peru	<=50K	nan	nan
2281	Private	HS-grad	Male	Other	Ireland	<=50K	nan	nan
1166	Local-gov	Some-college	Female	Black	United-States	<=50K	55.000000	46.000000
250	?	HS-grad	Female	Black	?	<=50K	nan	nan

# Synthetic

	workclass	education	sex	race	native.country	income	MAX(`hours.per.week`)	COUNT(*)
2305	Private	HS-grad	Male	White	Hungary	>50K	40.430558	23
634	Federal-gov	Masters	Male	White	Peru	<=50K	40.003294	5
2281	Private	HS-grad	Male	Other	Ireland	<=50K	39.986253	1
1166	Local-gov	Some-college	Female	Black	United-States	<=50K	40.047980	24
250	?	HS-grad	Female	Black	?	<=50K	40 014614	3

#### SQL for Real:

SELECT workclass,education,sex,race, `native.country`,income,MAX(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY workclass,education,sex,race, `native.country`,income

Resulted in 2913 records

#### SQL for Synthetic:

 $SELECT\ workclass, education, sex, race, `native.country`, income, MAX(`hours.per.week`),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ workclass, education, sex, race, `native.country`, income$ 

Resulted in 3665 records

Normalized Euclidean distance for (`hours.per.week`): 35.11

Hellinger Distance: 0.358

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		Real	
	workclass	MAX(age)	COUNT(*)
4	Self-emp-inc	85	1695
3	Private	90	33906
2	Local-gov	90	3136
6	State-gov	81	1981

#### Synthetic

90

	workclass	MAX(age)	COUNT(*)
4	Self-emp-inc	84.000000	1645.000000
3	Private	90.000000	34022.000000
2	Local-gov	90.000000	3105.000000
6	State-gov	81.000000	1982.000000
5	Self-emp-not-inc	90.000000	3818.000000

#### SQL for Real:

SELECT workclass, MAX(age), COUNT(\*) FROM C1 GROUP BY workclass

3862

Resulted in 7 records

5 Self-emp-not-inc

SQL for Synthetic:

SELECT workclass, MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass

Resulted in 7 records

Normalized Euclidean distance for (age): 2.65

Hellinger Distance: 0.003

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# Real

	relationship	race	education	SUM(age)	COUNT(*)
382	Wife	Other	7th-8th	81	2
158	Other-relative	Asian-Pac-Islander	11th	69	2
167	Other-relative	Asian-Pac-Islander	Prof-school	90	2
45	Husband	Other	11th	206	6
139	Not-in-family	White	12th	3473	96

# Synthetic

	relationship	race	education	SUM(age)	COUNT(*)
382	Wife	Other	7th-8th	nan	nan
158	Other-relative As	ian-Pac-Islander	11th	53.000000	3.000000
167	Other-relative As	ian-Pac-Islander	Prof-school	28.000000	1.000000
45	Husband	Other	11th	69.000000	2.000000
139	Not-in-family	White	12th	3634.000000	101.000000

# SQL for Real:

SELECT relationship,race,education,SUM(age), COUNT(\*) FROM C1 GROUP BY relationship,race,education

Resulted in 404 records

SQL for Synthetic:

SELECT relationship,race,education,SUM(age), COUNT(\*) FROM C1 syn 06 GROUP BY relationship,race,education

Resulted in 371 records

Normalized Euclidean distance for (age): 18.71

Hellinger Distance: 0.064

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	Real							
	sex	occupation	race	marital.status	native.country	education	AVG(fnlwgt)	COUNT(*
170	Female	?	White	Divorced	Scotland	Assoc-voc	nan	nan
2777	Female	Priv-house-serv	Other	Divorced	Guatemala	12th	nan	nan
8101	Male	Sales	Other	Never-married	United-States	Masters	nan	nan
8319	Male	Sales	White	Never-married	Holand-Netherlands	HS-grad	nan	nan
8348	Male	Sales	White	Never-married	Outlying-US(Guam-USVI-etc)	HS-grad	nan	nan

# Synthetic

	sex	occupation	race	marital.status	native.country	education	AVG(fnlwgt)	COUNT(*)
170	Female	?	White	Divorced	Scotland	Assoc-voc	180578.478483	1
2777	Female	Priv-house-serv	Other	Divorced	Guatemala	12th	184754.137780	1
8101	Male	Sales	Other	Never-married	United-States	Masters	180284.705271	1
8319	Male	Sales	White	Never-married	Holand-Netherlands	HS-grad	201563.361192	2
8348	Male	Sales	White	Never-married	Outlying-US(Guam-USVI-etc)	HS-grad	200641.749710	2

SQL for Real:

SELECT sex,occupation,race, `marital.status`, `native.country`,education,AVG(fnlwgt), COUNT(\*) FROM C1 GROUP BY sex,occupation,race, `marital.status`, `native.country`,education

Resulted in 6163 records

#### SQL for Synthetic:

 $SELECT\ sex, occupation, race, `marital.status', `native.country', education, AVG(fnlwgt),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ sex, occupation, race, `marital.status', `native.country', education$ 

Resulted in 8996 records

Normalized Euclidean distance for (fnlwgt): 49.57

Hellinger Distance: 0.252

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	marital.status	education	race	income	workclass	relationship	sex	native.country S	UM(`hours.per.week`)	COUNT(*)
5737	Never-married	Assoc-voc	White	<=50K	Private	Other-relative	Female	United-States	72.000000	2.000000
165	Divorced	11th	White	<=50K	Self-emp-not-inc	Unmarried	Female	Puerto-Rico	nan	nan
1045	Divorced	HS-grad	White	<=50K	Federal-gov	Husband	Male	Puerto-Rico	nan	nan
6359	Never-married	HS-grad	Black	<=50K	?	Own-child	Female	Ireland	nan	nan
2093 N	Married-civ-spouse	1st-4th	Black	<=50K	?	Husband	Male	United-States	40.000000	1.000000

#### Synthetic

	marital.status	education	race	income	workclass	relationship	sex	native.country	SUM(`hours.per.week`)	COUNT(*)
5737	Never-married	Assoc-voc	White	<=50K	Private	Other-relative	Female	United-States	119.410136	3
165	Divorced	11th	White	<=50K	Self-emp-not-inc	Unmarried	Female	Puerto-Rico	39.967635	1
1045	Divorced	HS-grad	White	<=50K	Federal-gov	Husband	Male	Puerto-Rico	40.091665	1
6359	Never-married	HS-grad	Black	<=50K	?	Own-child	Female	Ireland	40.001215	1
2093 1	Married-civ-spouse	1st-4th	Black	<=50K	?	Husband	Male	United-States	38.960631	1

#### SQL for Real:

SELECT `marital.status`,education,race,income,workclass,relationship,sex, `native.country`,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY `marital.status`,education,race,income,workclass,relationship,sex, `native.country`

Resulted in 6863 records

#### SQL for Synthetic:

SELECT `marital.status`,education,race,income,workclass,relationship,sex,`native.country`,SUM(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY `marital.status`,education,race,income,workclass,relationship,sex,`native.country`

Resulted in 9165 records

Normalized Euclidean distance for (`hours.per.week`): 50.11

Hellinger Distance: 0.311

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### Real

	sex	education	native.country	occupation	race	AVG(age)	COUNT(*)
4318	Male	Masters	Germany	Craft-repair	White	nan	nan
811	Female	Assoc-voc	Philippines	Machine-op-inspct	White	nan	nan
2753	Male	5th-6th	Peru	Craft-repair	Black	nan	nan
4900	Male	Some-college	United-States	Armed-Forces	White	25.666667	3.000000
1803	Female	Prof-school	Cuba	Prof-specialty	White	nan	nan

# Synthetic

	sex	education	native.country	occupation	race	AVG(age)	COUNT(*)
4318	Male	Masters	Germany	Craft-repair	White	43.000000	1
811	Female	Assoc-voc	Philippines	Machine-op-inspct	White	47.000000	1
2753	Male	5th-6th	Peru	Craft-repair	Black	57.000000	1
4900	Male	Some-college	United-States	Armed-Forces	White	30.750000	4
1803	Female	Prof-school	Cuba	Prof-specialty	White	67.000000	1

# SQL for Real:

 $SELECT\ sex, education, `native.country`, occupation, race, AVG(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ sex, education, `native.country`, occupation, race, Resulted in 3582\ records$ 

# SQL for Synthetic:

SELECT sex,education, `native.country`,occupation,race,AVG(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex,education, `native.country`,occupation,race Resulted in 4954 records

Normalized Euclidean distance for (age): 39.13

Hellinger Distance: 0.306

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#### Real

	workclass	occupation	relationship	native.country	SUM( hours.per.week	) COUNT(*)
2268	Self-emp-inc	Exec-managerial	Husband	Peru	nan	nan
2990	State-gov	Protective-serv	Not-in-family	?	nan	nan
1449	Private	Machine-op-inspct	Not-in-family	Columbia	120.000000	3.000000
1307	Private	Farming-fishing	Unmarried	China	nan	nan
1631	Private	Other-service	Own-child	Germany	90.000000	4.000000

	workclass	occupation	relationship	native.country St	UM(`hours.per.week`	) COUNT(*)
2268	Self-emp-inc	Exec-managerial	Husband	Peru	241.988902	6
2990	State-gov	Protective-serv	Not-in-family	?	119.995860	3
1449	Private	Machine-op-inspct	Not-in-family	Columbia	759.862730	19
1307	Private	Farming-fishing	Unmarried	China	40.046355	1
1631	Private	Other-service	Own-child	Germany	40.015598	1

#### SOI for Real

SELECT workclass,occupation,relationship, `native.country`,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY workclass,occupation,relationship, `native.country` Resulted in 2330 records

# SQL for Synthetic:

 $SELECT\ work class, occupation, relationship, `native.country`, SUM(`hours.per.week`), COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ work class, occupation, relationship, `native.country`$ 

Female

Resulted in 3049 records

Normalized Euclidean distance for (`hours.per.week`): 34.58

<=50K White

Hellinger Distance: 0.337

Puerto-Rico

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Never-married

						Real					
	native.country	income	race	marital.status	sex	workclass	occupation	relationship	education	MIN(fnlwgt)	COUNT(*)
696	?	<=50K	White	Never-married	Male	Private	Protective-serv	Own-child	HS-grad	nan	nan
1614	Columbia	<=50K	White	Married-civ-spouse	Male	State-gov	Farming-fishing	Husband	HS-grad	nan	nan
4344	Japan	<=50K	White	Never-married	Male	Private	Adm-clerical	Not-in-family	HS-grad	nan	nan
10148	Scotland	<=50K	White	Never-married	Female	Private	Tech-support	Not-in-family	Bachelors	nan	nan

#### Synthetic

Protective-serv

Own-child

nan

nan

Private

	native.country	income	race	marital.status	sex	workclass	occupation	relationship	education	MIN(fnlwgt)	COUNT(*)
696	?	<=50K	White	Never-married	Male	Private	Protective-serv	Own-child	HS-grad	197984.034859	1
1614	Columbia	<=50K	White	Married-civ-spouse	Male	State-gov	Farming-fishing	Husband	HS-grad	177869.045179	1
4344	Japan	<=50K	White	Never-married	Male	Private	Adm-clerical	Not-in-family	HS-grad	178049.212330	1
10148	Scotland	<=50K	White	Never-married	Female	Private	Tech-support	Not-in-family	Bachelors	179754.398381	1
8541	Puerto-Rico	<=50K	White	Never-married	Female	Private	Protective-serv	Own-child	10th	168957.692590	1

#### SOI for Boa

8541

SELECT `native.country`,income,race, `marital.status`,sex,workclass,occupation,relationship,education,MIN(fnlwgt), COUNT(\*) FROM C1 GROUP BY `native.country`,income,race, `marital.status`,sex,workclass,occupation,relationship,education

Resulted in 12664 records

# SQL for Synthetic:

SELECT `native.country`, income, race, `marital.status`, sex, workclass, occupation, relationship, education, MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`, income, race, `marital.status`, sex, workclass, occupation, relationship, education

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.252

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#### Real

	income	race	SUM(capital)	COUNT(*
1	<=50K	Asian-Pac-Islander	109724	1110
2	<=50K	Black	300347	4119
5	>50K	Amer-Indian-Eskimo	175710	55
0	<=50K	Amer-Indian-Eskimo	59843	415
3	<=50K	Other	8920	356

# Synthetic

	income	race	SUM(capital)	COUNT(*)		
1	<=50K	Asian-Pac-Islander	9441.715379	866.000000		
2	<=50K	Black	17653.035310	3738.000000		
5	>50K	Amer-Indian-Eskimo	-664.503375	14.000000		
0	<=50K	Amer-Indian-Eskimo	-1788.391251	188.000000		
3	<=50K	Other	778 285286	331 000000		

#### SQL for Real:

SELECT income,race,SUM(capital), COUNT(\*) FROM C1 GROUP BY income,race

Resulted in 10 records

# SQL for Synthetic:

SELECT income,race,SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY income,race

Resulted in 10 records

Normalized Euclidean distance for (capital): 3.16

Hellinger Distance: 0.145

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	occupation	relationship	sex	marital.status	income	race	workclass	education	native.country N	MIN(fnlwgt) (	COUNT(*)
3755	Craft-repair	Not-in-family	Female	Married-spouse-absent	<=50K	White	Self-emp-inc	HS-grad	Puerto-Rico	nan	nan
6867	Farming-fishing	Husband	Male	Married-civ-spouse	<=50K	White	Self-emp-inc	Assoc-voc	Columbia	nan	nan
12129	Prof-specialty	Not-in-family	Female	Never-married	<=50K	White	Private	Prof-school	Puerto-Rico	nan	nan
3503	Craft-repair	Husband	Male	Married-civ-spouse	<=50K	White	Private	Some-college	Thailand	nan	nan
9099	Machine-op-inspct	Unmarried	Male	Never-married	<=50K	Black	Private	HS-grad	Peru	nan	nan

Synthetic

	occupation	relationship	sex	marital.status	income	race	workclass	education	native.country	MIN(fnlwgt)	COUNT(*)
3755	Craft-repair	Not-in-family	Female	Married-spouse-absent	<=50K	White	Self-emp-inc	HS-grad	Puerto-Rico	175678.876887	1
6867	Farming-fishing	Husband	Male	Married-civ-spouse	<=50K	White	Self-emp-inc	Assoc-voc	Columbia	177651.128946	1
12129	Prof-specialty	Not-in-family	Female	Never-married	<=50K	White	Private	Prof-school	Puerto-Rico	165976.114730	3
3503	Craft-repair	Husband	Male	Married-civ-spouse	<=50K	White	Private	Some-college	Thailand	178421.128439	1
9099	Machine-op-inspct	Unmarried	Male	Never-married	<=50K	Black	Private	HS-grad	Peru	201688.943292	1

SQL for Real:

 $SELECT\ occupation, relationship, sex, `marital.status`, income, race, work class, education, `native.country`, MIN(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, relationship, sex, `marital.status`, income, race, work class, education, `native.country`$ 

Resulted in 12664 records

SQL for Synthetic:

SELECT occupation, relationship, sex, `marital.status`, income, race, workclass, education, `native.country`, MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, relationship, sex, `marital.status`, income, race, workclass, education, `native.country`,

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.252

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Real

	native.country	education	income	workclass	occupation	race	marital.status	relationship	AVG(capital)	COUNT(*)
5104	Outlying-US(Guam-USVI-etc)	Some-college	<=50K	Private	Adm-clerical	White	Divorced	Other-relative	nan	nan
13784	United-States	HS-grad	>50K	Self-emp-not-inc	Craft-repair	White	Never-married	Not-in-family	22868.600000	5.000000
12368	United-States	Bachelors	<=50K	State-gov	Prof-specialty	Black	Never-married	Unmarried	0.000000	1.000000
12625	United-States	Doctorate	>50K	Self-emp-inc	Sales	White	Married-civ-spouse	Husband	nan	nan
8989	Puerto-Rico	Some-college	<=50K	Self-emp-not-inc	Prof-specialty	White	Divorced	Unmarried	nan	nan

Synthetic

	native.country	education	income	workclass	occupation	race	marital.status	relationship	AVG(capital)	COUNT(*)
5104	Outlying-US(Guam-USVI-etc)	Some-college	<=50K	Private	Adm-clerical	White	Divorced	Other-relative	213.469716	1
13784	United-States	HS-grad	>50K	Self-emp-not-inc	Craft-repair	White	Never-married	Not-in-family	-190.680263	1
12368	United-States	Bachelors	<=50K	State-gov	Prof-specialty	Black	Never-married	Unmarried	-78.196953	1
12625	United-States	Doctorate	>50K	Self-emp-inc	Sales	White I	Married-civ-spouse	Husband	-180.439767	1
8989	Puerto-Rico	Some-college	<=50K	Self-emp-not-inc	Prof-specialty	White	Divorced	Unmarried	23.109449	1

SQL for Real:

SELECT `native.country`,education,income,workclass,occupation,race, `marital.status`,relationship,AVG(capital), COUNT(\*) FROM C1 GROUP BY `native.country`,education,income,workclass,occupation,race, `marital.status`,relationship

Resulted in 11324 records

SQL for Synthetic:

SELECT `native.country`,education,income,workclass,occupation,race, `marital.status`,relationship,AVG(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`,education,income,workclass,occupation,race, `marital.status`,relationship

Resulted in 15410 records

Normalized Euclidean distance for (capital): 62.14

Hellinger Distance: 0.254

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Real

	race	income	education	native.country	marital.status	occupation	workclass	MIN(age)	COUNT(*)
7603	White	<=50K	HS-grad	Laos	Married-civ-spouse	Sales	Self-emp-inc	nan	nan
9406	White	<=50K	Some-college	Haiti	Widowed	?	?	nan	nan
5301	White	<=50K	Assoc-acdm	United-States	Never-married	Sales	Private	20.000000	45.000000
1698	Black	<=50K	Bachelors	United-States	Married-civ-spouse	Sales	Private	24.000000	3.000000
2785	Black	>50K	HS-grad	Puerto-Rico	Married-civ-spouse N	Aachine-op-inspct	Private	nan	nan

Synthetic

	race	income	education	native.country	marital.status	occupation	workclass	MIN(age)	COUNT(*)
760	3 White	<=50K	HS-grad	Laos	Married-civ-spouse	Sales	Self-emp-inc	26	2
940	6 White	<=50K	Some-college	Haiti	Widowed	?	?	59	1
530	1 White	<=50K	Assoc-acdm	United-States	Never-married	Sales	Private	20	48
169	8 Black	<=50K	Bachelors	United-States	Married-civ-spouse	Sales	Private	30	3
278	5 Black	>50K	HS-grad	Puerto-Rico	Married-civ-spouse N	Aachine-op-inspct	t Private	46	2

#### SQL for Real

SELECT race, income, education, `native.country`, `marital.status`, occupation, workclass, MIN(age), COUNT(\*) FROM C1 GROUP BY race, income, education, `native.country`, `marital.status`, occupation, workclass

Resulted in 8403 records

# SQL for Synthetic:

 $SELECT\ race, income, education, `native.country`, `marital.status`, occupation, workclass, MIN(age),\ COUNT(*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ race, income, education, `native.country`, `marital.status`, occupation, workclass$ 

Resulted in 11619 records

Normalized Euclidean distance for (age): 55.59

Hellinger Distance: 0.265

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Real

	native.country	relationship	race	SUM(fnlwgt)	COUNT(*)
316	Laos	Own-child	Asian-Pac-Islander	875970.000000	3.000000
125	El-Salvador	Unmarried	White	5326863.000000	20.000000
484	Thailand	Other-relative	White	nan	nan
77	Columbia	Unmarried	Asian-Pac-Islander	nan	nan
86	Cuba	Own-child	White	4133709.000000	17.000000

Synthetic

	native.country	relationship	race	SUM(fnlwgt)	COUNT(*)
316	6 Laos	Own-child	Asian-Pac-Islander	180075.427946	1
125	5 El-Salvador	Unmarried	White	936385.271671	5
484	l Thailand	Other-relative	White	1244313.824766	7
77	Columbia	Unmarried	Asian-Pac-Islander	532638.467094	3
86	Cuba	Own-child	White	179577.687682	1

SQL for Real:

SELECT `native.country`,relationship,race,SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY `native.country`,relationship,race

Resulted in 455 records

SQL for Synthetic:

SELECT `native.country`,relationship,race,SUM(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY `native.country`,relationship,race

Resulted in 549 records

Normalized Euclidean distance for (fnlwgt): 17.41

Hellinger Distance: 0.397

Real

	occupation	income	workclass	sex	education	SUM(capital)	COUNT(*)
1386	Prof-specialty	>50K	Self-emp-not-inc	Female	Assoc-acdm	0	3
1174	Other-service	>50K	State-gov	Female	Some-college	0	1
491	Exec-managerial	<=50K	Self-emp-inc	Female	Bachelors	0	7
620	Exec-managerial	>50K	Self-emp-inc	Male	HS-grad	211971	78
1476	Protective-serv	<=50K	State-gov	Male	Assoc-acdm	-1740	6

Synthetic

	occupation	income	workclass	sex	education	SUM(capital)	COUNT(*)
1386	Prof-specialty	>50K	Self-emp-not-inc	Female	Assoc-acdm	-64.253621	1.000000
1174	Other-service	>50K	State-gov	Female	Some-college	nan	nan
491	Exec-managerial	<=50K	Self-emp-inc	Female	Bachelors	530.715776	12.000000
620	Exec-managerial	>50K	Self-emp-inc	Male	HS-grad	-738.609213	31.000000
1476	Protective-serv	<=50K	State-gov	Male	Assoc-acdm	227.498803	10.000000

SQL for Real

 $SELECT\ occupation, income, work class, sex, education, SUM (capital),\ COUNT (*)\ FROM\ C1\ GROUP\ BY\ occupation, income, work class, sex, education$ 

Resulted in 1951 records

SQL for Synthetic:

 $SELECT\ occupation, income, work class, sex, education, SUM (capital),\ COUNT (*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ occupation, income, work class, sex, education$ 

Resulted in 1896 records

Normalized Euclidean distance for (capital): 38.44

Hellinger Distance: 0.17

Real

	workclass	occupation	SUM(age)	COUNT(*)
44	Private	Farming-fishing	23582.000000	670.000000
<b>45</b>	Private	Handlers-cleaners	62151.000000	1923.000000
<b>73</b>	Self-emp-not-inc	Machine-op-inspct	2546.000000	59.000000
16	Federal-gov	Exec-managerial	11796.000000	268.000000
55	Self-emp-inc	Craft-repair	6964.000000	167.000000

Synthetic

	workclass	occupation	SUM(age)	COUNT(*)
44	Private	Farming-fishing	19015	521
<b>45</b>	Private	Handlers-cleaners	61905	1926
73	Self-emp-not-inc	Machine-op-inspct	2879	64
16	Federal-gov	Exec-managerial	10320	225
55	Self-emp-inc	Craft-repair	6809	159

SQL for Real:

SELECT workclass,occupation, SUM(age), COUNT(\*) FROM C1 GROUP BY workclass,occupation

Resulted in 84 records

SQL for Synthetic:

SELECT workclass,occupation,SUM(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass,occupation

Resulted in 95 records

Normalized Euclidean distance for (age): 9.17

Hellinger Distance: 0.036

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	education	occupation	${\bf relationship}$	income	marital.status	SUM(capital)	COUNT(*)
950	7th-8th	Sales	Not-in-family	<=50K	Divorced	0	4
1955	Doctorate	Prof-specialty	Unmarried	<=50K	Married-spouse-absent	0	2
2145	HS-grad	Farming-fishing	Unmarried	<=50K	Divorced	0	7
977	9th	?	Not-in-family	<=50K	Never-married	0	3
2033	HS-grad	Adm-clerical	Own-child	<=50K	Married-civ-spouse	0	8

### Synthetic

	education	occupation	relationship	income	marital.status	SUM(capital)	COUNT(*)
95	0 7th-8th	Sales	Not-in-family	<=50K	Divorced	-171.448478	2.000000
195	5 Doctorate	Prof-specialty	Unmarried	<=50K	Married-spouse-absent	25.313100	1.000000
214	15 HS-grad	Farming-fishing	Unmarried	<=50K	Divorced	-150.244177	11.000000
97	7 9th	?	Not-in-family	<=50K	Never-married	-55.122475	3.000000
203	3 HS-grad	Adm-clerical	Own-child	<=50K	Married-civ-spouse	152.155400	9.000000

#### SQL for Real:

SELECT education,occupation,relationship,income, `marital.status`,SUM(capital), COUNT(\*) FROM C1 GROUP BY education,occupation,relationship,income, `marital.status` Resulted in 3111 records

#### SQL for Synthetic:

SELECT education,occupation,relationship,income, marital.status',SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY education,occupation,relationship,income, marital.status

Resulted in 2930 records

Normalized Euclidean distance for (capital): 46.53

Hellinger Distance: 0.181

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# Real

	marital.status	relationship	native.country	occupation	education	MIN(fnlwgt)	COUNT(*)
5722	Never-married	Own-child	Canada	?	Assoc-voc	nan	nan
3508	Married-civ-spouse	Wife	Hungary	Prof-specialty	HS-grad	nan	nan
814	Divorced	Other-relative	United-States	Sales	Bachelors	198774.000000	2.000000
3432	Married-civ-spouse	Wife	Columbia	Other-service	Some-college	nan	nan
1763	Married-civ-spouse	Husband	Canada	Sales	Bachelors	204501.000000	3.000000

# Synthetic

	marital.status	relationship	native.country	occupation	education	MIN(fnlwgt)	COUNT(*)
5722	Never-married	Own-child	Canada	?	Assoc-voc	182697.599682	1
3508 N	Married-civ-spouse	Wife	Hungary	Prof-specialty	HS-grad	180141.940732	2
814	Divorced	Other-relative	United-States	Sales	Bachelors	181875.601920	1
3432 N	Married-civ-spouse	Wife	Columbia	Other-service	Some-college	177541.121928	1
1763 N	Married-civ-spouse	Husband	Canada	Sales	Bachelors	198795.272265	2

# SQL for Real:

SELECT `marital.status`,relationship, `native.country`,occupation,education,MIN(fnlwgt), COUNT(\*) FROM C1 GROUP BY  $\verb|`marital.status'|, relationship, \verb|`native.country'|, occupation, education|$ 

Resulted in 5498 records

#### SQL for Synthetic:

SELECT marital.status`,relationship, native.country`,occupation,education,MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY `marital.status`,relationship,`native.country`,occupation,education

Resulted in 8263 records

Normalized Euclidean distance for (fnlwgt): 48.62

Hellinger Distance: 0.263

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# Real

		Real		
	relationship	workclass	MIN(fnlwgt)	COUNT(*)
16	Other-relative	Local-gov	33386	64
13	Not-in-family	State-gov	19395	586
25	Own-child	Self-emp-inc	29582	93
26	Own-child	Self-emp-not-inc	25631	244
<b>30</b>	Unmarried	Local-gov	20101	436

	relationship	workclass	MIN(fnlwgt)	COUNT(*)
16	Other-relative	Local-gov	148460.841202	87.000000
13	Not-in-family	State-gov	121336.094168	606.000000
25	Own-child	Self-emp-inc	147566.881431	118.000000
26	Own-child	Self-emp-not-inc	147338.179666	285.000000
30	Unmarried	Local-gov	141754.821183	407.000000

# SQL for Real:

SELECT relationship, workclass, MIN(fnlwgt), COUNT(\*) FROM C1 GROUP BY relationship, workclass

Resulted in 42 records

# $\underline{SQL\ for\ Synthetic:}$

SELECT relationship,workclass,MIN(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY relationship,workclass

Resulted in  $42\ records$ 

Normalized Euclidean distance for (fnlwgt): 6.48

Hellinger Distance: 0.02

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	race	workclass	SUM(capital)	COUNT(*)
14	Black	?	66516	330
19	Black	Self-emp-not-inc	236814	136
12	Asian-Pac-Islander	Self-emp-not-inc	206528	100
18	Black	Self-emp-inc	153632	38
33	White	Self-emp-not-inc	5902959	3576

# Synthetic

	race	workclass	SUM(capital)	COUNT(*)
14	Black	?	-1239.763313	262.000000
19	Black	Self-emp-not-inc	1065.757357	93.000000
12 Asian	-Pac-Islander	Self-emp-not-inc	1855.438249	82.000000
18	Black	Self-emp-inc	348.514647	36.000000
33	White	Self-emp-not-inc	-6677.688755	3618.000000

#### SQL for Real:

SELECT race, workclass, SUM(capital), COUNT(\*) FROM C1 GROUP BY race, workclass

Resulted in 35 records

#### SQL for Synthetic:

SELECT race,workclass,SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY race,workclass

Resulted in 34 records

Normalized Euclidean distance for (capital): 5.83

Hellinger Distance: 0.044

#### Real

	workclass	relationship	native.country	MIN(capital)	COUNT(*)
364	Private	Other-relative	Holand-Netherlands	-2205	1
626	Self-emp-not-inc	Not-in-family	Mexico	0	7
100	?	Wife	Germany	0	1
<b>557</b>	Self-emp-inc	Unmarried	Canada	0	3
368	Private	Other-relative	India	0	8

#### Synthetic

		workclass	relationship	native.country	MIN(capital)	COUNT(*)
36	64	Private	Other-relative	Holand-Netherlands	-192.221912	10.000000
62	<b>26</b> S	elf-emp-not-inc	Not-in-family	Mexico	nan	nan
10	00	?	Wife	Germany	nan	nan
55	57	Self-emp-inc	Unmarried	Canada	nan	nan
36	86	Private	Other-relative	India	-174.164756	4.000000

#### SQL for Real:

SELECT workclass, relationship, `native.country`, MIN(capital), COUNT(\*) FROM C1 GROUP BY workclass, relationship, `native.country` Resulted in 751 records

### SQL for Synthetic:

SELECT workclass, relationship, `native.country`, MIN(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass, relationship, `native.country`

Resulted in 732 records

Normalized Euclidean distance for (capital): 20.37

Hellinger Distance: 0.387

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	education	relationship	income	native.country	marital.status	race	occupation	workclass	sex	MAX(capital)	COUNT(*)
15655	Some-college	Other-relative	<=50K	United-States	Never-married	White	Prof-specialty	Local-gov	Male	0.000000	2.000000
7660	Bachelors	Wife	>50K	?	Married-civ-spouse	Asian-Pac-Islander	Adm-clerical	Private	Female	nan	nan
9826	HS-grad	Not-in-family	<=50K	United-States	Married-spouse-absent	White	Tech-support	Private	Female	0.000000	1.000000
3746	Assoc-acdm	Not-in-family	<=50K	United-States	Never-married	White	Tech-support	Private	Male	0.000000	10.000000
2892	9th	Not-in-family	<=50K	?	Divorced	White	Other-service	Private	Female	nan	nan

	education	${\bf relationship}$	income	native.country	marital.status	race	occupation	workclass	sex	MAX(capital)	COUNT(*)
15655	Some-college	Other-relative	<=50K	United-States	Never-married	White	Prof-specialty	Local-gov	Male	54.360139	1
7660	Bachelors	Wife	>50K	?	Married-civ-spouse	Asian-Pac-Islander	Adm-clerical	Private	Female	-225.759230	1
9826	HS-grad	Not-in-family	<=50K	United-States	Married-spouse-absent	White	Tech-support	Private	Female	63.025435	1
3746	Assoc-acdm	Not-in-family	<=50K	United-States	Never-married	White	Tech-support	Private	Male	9.491772	2
2892	9th	Not-in-family	<=50K	?	Divorced	White	Other-service	Private	Female	-159.955537	1

SQL for Real:

 $SELECT\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, relationship, relationship, relationship, relationship, relationship, relationship, rela$ 

Resulted in 12664 records

SQL for Synthetic:

SELECT education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex, MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY education, relationship, income, `native.country`, `marital.status`, race, occupation, workclass, sex

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.252

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Real

	sex	native.country	income	education	occupation	marital.status	race	workclass	relationship	AVG(fnlwgt)	COUNT(*)
16636	Male	United-States	>50K	Assoc-acdm	Armed-Forces	Never-married	White	Federal-gov	Own-child	nan	nan
4382	Female	Scotland	<=50K	Assoc-acdm	Other-service	Married-civ-spouse	White	Local-gov	Wife	nan	nan
7903	Male	?	<=50K	Masters	Exec-managerial	Married-civ-spouse	Black	Private	Husband	103408.000000	1.000000
9988	Male	Japan	<=50K	HS-grad	Sales	Divorced	White	Self-emp-inc	Unmarried	nan	nan
6882	Female	United-States	<=50K	Some-college	Adm-clerical	Separated	White	Private	Other-relative	32958.000000	1.000000

Synthetic

	sex	native.country	income	education	occupation	marital.status	race	workclass	relationship	AVG(fnlwgt)	COUNT(*)
1663	6 Male	United-States	>50K	Assoc-acdm	Armed-Forces	Never-married	White	Federal-gov	Own-child	193422.466221	1
4382	Female	Scotland	<=50K	Assoc-acdm	Other-service	Married-civ-spouse	White	Local-gov	Wife	180030.760019	1
<b>790</b> 3	Male	?	<=50K	Masters	Exec-managerial	Married-civ-spouse	Black	Private	Husband	184700.865109	1
9988	Male	Japan	<=50K	HS-grad	Sales	Divorced	White	Self-emp-inc	Unmarried	178176.562640	1
6882	Female	United-States	<=50K	Some-college	Adm-clerical	Separated	White	Private	Other-relative	181712.006559	1

SQL for Real

SELECT sex, `native.country`, income, education, occupation, `marital.status`, race, workclass, relationship, AVG(fnlwgt), COUNT(\*) FROM C1 GROUP BY sex, `native.country`, income, education, occupation, `marital.status`, race, workclass, relationship

Resulted in 12664 records

SQL for Synthetic:

SELECT sex, `native.country`, income, education, occupation, `marital.status`, race, workclass, relationship, AVG(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, `native.country`, income, education, occupation, `marital.status`, race, workclass, relationship

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.252

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Real

	marital.status	sex	race	relationship	workclass	native.country	education	income	SUM(fnlwgt)	COUNT(*)
2219	Married-civ-spouse	Female	White	Wife	?	Taiwan	Bachelors	<=50K	nan	nan
8657	Widowed	Female	White	Not-in-family	?	United-States	Bachelors	<=50K	1217251.000000	7.000000
6837	Never-married	Male	White	Not-in-family	?	United-States	Some-college	<=50K	6981532.000000	33.000000
5976	Never-married	Female	White	Own-child	Private	Iran	Bachelors	<=50K	nan	nan
5864	Never-married	Female	White	Own-child	Federal-gov	Peru	Some-college	<=50K	nan	nan

Synthetic

	marital.status	sex	race	relationship	workclass	native.country	education	income	SUM(fnlwgt)	COUNT(*)	
2219	Married-civ-spouse	Female	White	Wife	?	Taiwan	Bachelors	<=50K	179913.334884	1	
8657	Widowed	Female	White	Not-in-family	?	United-States	Bachelors	<=50K	567783.717992	4	
6837	Never-married	Male	White	Not-in-family	?	United-States	Some-college	<=50K	4308684.928030	23	
5976	Never-married	Female	White	Own-child	Private	Iran	Bachelors	<=50K	180655.073062	1	
5864	Never-married	Female	White	Own-child	Federal-gov	Peru	Some-college	<=50K	204050.999748	1	

SQL for Real

SELECT `marital.status`,sex,race,relationship,workclass, `native.country`,education,income,SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY `marital.status`,sex,race,relationship,workclass, `native.country`,education,income

Resulted in 6863 records

# SQL for Synthetic:

SELECT marital.status, sex, race, relationship, workclass, native.country, education, income, SUM(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY marital.status, sex, race, relationship, workclass, native.country, education, income

Resulted in 9165 records

Normalized Euclidean distance for (fnlwgt): 50.11

Hellinger Distance: 0.311

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#### Real

	race	sex	income	SUM(`hours.per.week`)	COUNT(*)
7	Asian-Pac-Islander	Male	>50K	15507	340
4	Asian-Pac-Islander	Female	<=50K	16370	448
12	Other	Female	<=50K	5108	144
0	Amer-Indian-Eskimo	Female	<=50K	6236	170
6	Asian-Pac-Islander	Male	<=50K	25824	662

#### Synthetic

	race	sex	income	SUM(`hours.per.week`)	COUNT(*)
7	Asian-Pac-Islander	Male	>50K	4451.509586	111.000000
4	Asian-Pac-Islander	Female	<=50K	12263.689885	307.000000
12	Other	Female	<=50K	6092.589092	153.000000
0	Amer-Indian-Eskimo	Female	<=50K	2553.226256	64.000000
6	Asian-Pac-Islander	Male	<=50K	22375.374734	559.000000

#### SOL for Real:

SELECT race,sex,income,SUM(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY race,sex,income

Resulted in 20 records

 $\underline{SQL\ for\ Synthetic:}$ 

SELECT race,sex,income,SUM(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY race,sex,income

Resulted in 20 records

Normalized Euclidean distance for ('hours.per.week'): 4.47

Hellinger Distance: 0.145

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#### Real

	income	sex	native.country	education	marital.status	MAX(age)	COUNT(*)
2201	>50K	Male	Puerto-Rico	Bachelors	Never-married	nan	nan
2128	>50K	Male	Iran	Some-college	Married-civ-spouse	47.000000	2.000000
1765	<=50K	Male	Thailand	Some-college	Divorced	nan	nan
987	<=50K	Male	?	Assoc-acdm	Married-civ-spouse	42.000000	2.000000
466	<=50K	Female	Japan	Assoc-voc	Never-married	nan	nan

# Synthetic

	income	sex	native.country	education	marital.status	MAX(age)	COUNT(*)
2201	>50K	Male	Puerto-Rico	Bachelors	Never-married	47	5
2128	>50K	Male	Iran	Some-college	Married-civ-spouse	30	1
1765	<=50K	Male	Thailand	Some-college	Divorced	24	1
987	<=50K	Male	?	Assoc-acdm	Married-civ-spouse	64	14
466	<=50K	Female	Japan	Assoc-voc	Never-married	37	3

#### SQL for Real

 $SELECT\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, education, `marital.status`, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, sex, `native.country`, and `native.country`, and `native.country`, and `native.country`, a$ 

Resulted in 2126 records

#### SQL for Synthetic:

SELECT income,sex, `native.country`,education, `marital.status`,MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY income,sex, `native.country`,education, `marital.status` Resulted in 2296 records

Normalized Euclidean distance for (age): 31.22

Hellinger Distance: 0.38

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		occupation	sex	SUM(`hours.per.week`)	COUNT(*)				
	0	?	Female	38062.000000	1273.000000				
	1	?	Male	51270.000000	1536.000000				
2	23	Protective-serv	Male	37396.000000	861.000000				
2	25	Sales	Male	157836.000000	3557.000000				
:	27	Tech-support	Male	36301.000000	884.000000				

# Synthetic

	occupation	sex	SUM(`hours.per.week`)	COUNT(*)
0	?	Female	54805.924489	1381
1	?	Male	57906.940697	1459
23	Protective-serv	Male	34958.469808	874
25	Sales	Male	142129.655037	3537
27	Tech-support	Male	35272.407887	882

#### SQL for Real:

 ${\tt SELECT\ occupation, sex, SUM(`hours.per.week`),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, sex}$ 

Resulted in 29 records

#### SQL for Synthetic:

SELECT occupation, sex, SUM(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY occupation, sex

Resulted in 30 records

Normalized Euclidean distance for ('hours.per.week'): 5.39

Hellinger Distance: 0.028

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#### Real

# relationship MAX(capital) COUNT(\*)

5	Wife	99999	2331
3	Own-child	99999	7581
0	Husband	99999	19716
1	Not-in-family	99999	12583
4	Unmarried	99999	5125

#### Synthetic

# relationship MAX(capital) COUNT(\*)

Wife 659.125210 2479.000000 5 3 Own-child 439.8572618227.000000 0 Husband 872.469211 19353.000000 1 Not-in-family 902.309265 12433.000000 4 Unmarried 464.951776 4999.000000

#### SQL for Real:

SELECT relationship, MAX(capital), COUNT(\*) FROM C1 GROUP BY relationship

Resulted in 6 records

SQL for Synthetic:

SELECT relationship, MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY relationship

Resulted in 6 records

Normalized Euclidean distance for (capital): 2.45

Hellinger Distance: 0.015

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#### Real

# income MAX(capital) COUNT(\*)

0 <=50K 41310 37155 11687 >50K 99999

# Synthetic

## income MAX(capital) COUNT(\*)

**0** <=50K 902.309265 44080.000000 574.776427 4762.000000 >50K

#### SQL for Real:

SELECT income, MAX(capital), COUNT(\*) FROM C1 GROUP BY income

Resulted in 2 records

# SOL for Synthetic:

SELECT income, MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY income

Resulted in 2 records

Normalized Euclidean distance for (capital): 1.41

Hellinger Distance: 0.137

Real native.country workclass MIN(`hours.per.week`) COUNT(\*) relationship sex income marital.status race occupation education 5280 Not-in-family Female <=50K Other Adm-clerical United-States Private 35.000000 1.000000 Never-married Assoc-voc Exec-Some-12439 Own-child Male <=50KNever-married White Private Laos nan managerial college Asian-Pac-Married-civ-Exec-Self-emp-3186 Husband >50K HS-grad United-States 40.000000 1.000000 Male managerial spouse Islander Some-10922 Own-child Female <=50K 20.000000 1.000000 Never-married Other Sales United-States Private college 6865 Not-in-family Male <=50K Divorced Black Sales HS-grad United-States Private nan nan Synthetic education native.country workclass MIN(`hours.per.week`) COUNT(\*) relationship income marital.status occupation sex race Adm-clerical 5280 Not-in-family Female <=50KNever-married Other United-States Private 40.020390 Assoc-voc Exec-Some-12439 Own-child Male <=50K Never-married White Laos Private 39.981428 managerial college Married-civ-Asian-Pac-Self-emp-Exec-3186 Husband >50K United-States 40.355496 Male HS-grad spouse Islander managerial Some-**10922** Own-child Other Sales United-States Private 39.436983 Female <=50K Never-married college 40.410807 6865 Not-in-family Male Black Sales HS-grad United-States Private

SELECT relationship,sex,income, `marital.status`,race,occupation,education, `native.country`,workclass,MIN(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY relationship, sex, income, `marital. status`, race, occupation, education, `native.country`, work class and the status is a superior of the status of the

Resulted in 12664 records

#### SQL for Synthetic:

SELECT relationship,sex,income, `marital.status`,race,occupation,education, `native.country`,workclass,MIN(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY relationship,sex,income, `marital.status`,race,occupation,education, `native.country`,workclass

Resulted in 17127 records

Normalized Euclidean distance for (`hours.per.week`): 64.61

Hellinger Distance: 0.252

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#### Real

	income	sex	occupation	SUM(fnlwgt)	COUNT(*)
13	<=50K	Female	Transport-moving	22414590	114
1	<=50K	Female	Adm-clerical	653797659	3460
3	<=50K	Female	Exec-managerial	244876970	1327
26	<=50K	Male	Sales	422850837	2216
15	<=50K	Male	Adm-clerical	278084013	1383

#### Synthetic

	income sex		occupation	SUM(fnlwgt)	COUNT(*)		
13	<=50K	Female	Transport-moving	20329849.218387	113.000000		
1	<=50K	Female	Adm-clerical	676108083.870327	3717.000000		
3	<=50K	Female	Exec-managerial	309798992.128707	1714.000000		
26	<=50K	Male	Sales	555375990.992196	3044.000000		
15	<=50K	Male	Adm-clerical	304251917.873978	1679.000000		

#### SOL for Real:

SELECT income, sex, occupation, SUM(fnlwgt), COUNT(\*) FROM C1 GROUP BY income, sex, occupation

Resulted in 57 records

### SQL for Synthetic:

SELECT income,sex,occupation,SUM(fnlwgt), COUNT(\*) FROM C1\_syn\_06 GROUP BY income,sex,occupation

Resulted in 57 records

Normalized Euclidean distance for (fnlwgt): 7.48

Hellinger Distance: 0.148

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#### Real

	sex	native.country	income	marital.status	occupation	relationship	race	education	workclass	MAX(`hours.per.week`)	COUNT(*)
10278	Male	Laos	<=50K	Married-civ-spouse	Other-service	Husband	White	HS-grad	Self-emp-not-inc	nan	nan
585	Female	Columbia	<=50K	Married-civ-spouse	Adm-clerical	Wife	White	HS-grad	Private	nan	nan
3687	Female	Puerto-Rico	<=50K	Never-married	Other-service	Other-relative	Black	11th	Private	nan	nan
10293	Male	Laos	<=50K	Married-civ-spouse	Protective-serv	Husband	White	Bachelors	Private	nan	nan
136	Female	?	<=50K	Married-civ-spouse	Prof-specialty	Other-relative	White	Masters	Local-gov	nan	nan

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	sex	native.country	income	marital.status	occupation	relationship	race	${\bf education}$	workclass	MAX(`hours.per.week`)	) COUNT(*)
10278	Male	Laos	<=50K	Married-civ-spouse	Other-service	Husband	White	HS-grad	Self-emp-not-inc	40.251916	1
585	Female	Columbia	<=50K	Married-civ-spouse	Adm-clerical	Wife	White	HS-grad	Private	40.092411	4
3687	Female	Puerto-Rico	<=50K	Never-married	Other-service	Other-relative	Black	11th	Private	38.985975	1
10293	Male	Laos	<=50K	Married-civ-spouse	Protective-serv	Husband	White	Bachelors	Private	39.990177	1
136	Female	?	<=50K	Married-civ-spouse	Prof-specialty	Other-relative	White	Masters	Local-gov	39.998828	1

# SQL for Real:

SELECT sex, native.country`,income, `marital.status`,occupation,relationship,race,education,workclass,MAX(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY sex, `native.country`,income, `marital.status`,occupation,relationship,race,education,workclass

Resulted in 12664 records

# SQL for Synthetic:

SELECT sex, `native.country`, income, `marital.status`, occupation, relationship, race, education, workclass, MAX(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex, `native.country`, income, `marital.status`, occupation, relationship, race, education, workclass

Resulted in 17127 records

Normalized Euclidean distance for ('hours.per.week'):  $64.61\,$ 

Hellinger Distance: 0.252

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#### Real

	race	native.country	income	marital.status	relationship	workclass	MIN(capital)	COUNT(*)	
2059	White	Nicaragua	<=50K	Never-married	Own-child	Private	0.000000	8.000000	
346	Asian-Pac-Islander	United-States	<=50K	Divorced	Unmarried	Federal-gov	0.000000	2.000000	
1403	White	Columbia	<=50K	Married-civ-spouse	Other-relative	Private	0.000000	1.000000	
1223	White	?	<=50K	Divorced	Unmarried	Local-gov	0.000000	1.000000	
1859	White	Jamaica	<=50K	Widowed	Own-child	Private	nan	nan	

	race	native.country	income	marital.status	relationship	workclass	MIN(capital)	COUNT(*)
20	<b>59</b> White	Nicaragua	<=50K	Never-married	Own-child	Private	-170.650011	68
34	46 Asian-Pac-Islander	United-States	<=50K	Divorced	Unmarried	Federal-gov	103.320185	1
14	03 White	Columbia	<=50K	Married-civ-spouse	Other-relative	Private	-268.506274	2
12	23 White	?	<=50K	Divorced	Unmarried	Local-gov	-117.326702	3
18	59 White	Jamaica	<=50K	Widowed	Own-child	Private	-43.644932	1

SELECT race, `native.country`,income, `marital.status`,relationship,workclass,MIN(capital), COUNT(\*) FROM C1 GROUP BY race, `native.country`,income, `marital.status`,relationship,workclass

Resulted in 2280 records

#### SQL for Synthetic:

Resulted in 2837 records

Normalized Euclidean distance for (capital): 31.26

Hellinger Distance: 0.384

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#### Real

	race	relationship	marital.status	AVG('hours.per.week')	COUNT(*)
34	Asian-Pac-Islander	Own-child	Married-civ-spouse	39.000000	12.000000
85	Other	Not-in-family	Widowed	38.000000	4.000000
29	Asian-Pac-Islander	Other-relative	Married-civ-spouse	41.600000	30.000000
99	Other	Wife	Married-civ-spouse	35.869565	23.000000
98	Other	Unmarried	Widowed	37.000000	5.000000

#### Synthetic

	race	relationship	marital.status	AVG(`hours.per.week`)	COUNT(*
34 Asian-	-Pac-Islander	Own-child	Married-civ-spouse	40.013544	5
85	Other	Not-in-family	Widowed	39.719706	4
29 Asian	Pac-Islander	Other-relative	Married-civ-spouse	39.918964	11
99	Other	Wife	Married-civ-spouse	39.954263	20
98	Other	Unmarried	Widowed	40.009190	3

# SQL for Real:

SELECT race, relationship, `marital.status`,AVG(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY race, relationship, `marital.status` Resulted in 125 records

# SQL for Synthetic:

SELECT race, relationship, `marital.status`,AVG(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY race, relationship, `marital.status` Resulted in 140 records

Normalized Euclidean distance for (`hours.per.week`): 10.63

Hellinger Distance: 0.052

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	workclass	MAX(age)	COUNT(
4	Self-emp-inc	85	1695
3	Private	90	33906
6	State-gov	81	1981
1	Federal-gov	90	1432
0	?	90	2830

#### Synthetic

		Symmetre	
	workclass	MAX(age)	COUNT(*)
4	Self-emp-inc	84.000000	1645.000000
3	Private	90.000000	34022.000000
6	State-gov	81.000000	1982.000000
1	Federal-gov	79.000000	1426.000000
0	?	90.000000	2844.000000

# SQL for Real:

SELECT workclass, MAX(age), COUNT(\*) FROM C1 GROUP BY workclass

Resulted in 7 records

#### SQL for Synthetic:

SELECT workclass, MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY workclass

Resulted in 7 records

Normalized Euclidean distance for (age): 2.65

Hellinger Distance: 0.003

					Real				
	relationship	race	education	sex	occupation	workclass	income	MAX(capital)	COUNT(*)
1379	Husband	White	Doctorate	Male	Protective-serv	Local-gov	>50K	0	1
1946	Not-in-family	Asian-Pac-Islander	Bachelors	Male	Prof-specialty	Federal-gov	<=50K	0	1
2739	Not-in-family	White	7th-8th	Male	Machine-op-inspct	Private	<=50K	0	9
<b>504</b>	Husband	Black	HS-grad	Male	Adm-clerical	Self-emp-not-inc	<=50K	0	1
3544	Not-in-family	White	Some-college	Male	Farming-fishing	Local-gov	<=50K	0	2

	relationship	race	education	sex	occupation	workclass	income	MAX(capital)	COUNT(*)
1379	Husband	White	Doctorate	Male	Protective-serv	Local-gov	>50K	nan	nan
1946	Not-in-family Asian	n-Pac-Islander	Bachelors	Male	Prof-specialty	Federal-gov	<=50K	nan	nan
2739	Not-in-family	White	7th-8th	Male	Machine-op-inspct	Private	<=50K	50.279206	4.000000
<b>504</b>	Husband	Black	HS-grad	Male	Adm-clerical	Self-emp-not-inc	<=50K	nan	nan
3544	Not-in-family	White	Some-college	Male	Farming-fishing	Local-gov	<=50K	183.240194	2.000000

SQL for Real:

SELECT relationship,race,education,sex,occupation,workclass,income,MAX(capital), COUNT(\*) FROM C1 GROUP BY relationship,race,education,sex,occupation,workclass,income

Resulted in 7027 records

SQL for Synthetic:

SELECT relationship,race,education,sex,occupation,workclass,income,MAX(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY relationship, race, education, sex, occupation, work class, income

Resulted in 6287 records

Normalized Euclidean distance for (capital): 62.94

Hellinger Distance: 0.201

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						Real					
	income	marital.status	occupation	sex	native.country	race	workclass	education	relationship N	MAX(`hours.per.week`)	COUNT(*)
6396	6 <=50K	Married-civ-spouse	Protective- serv	Female	Puerto-Rico	White	Private	HS-grad	Wife	nan	nan
8476	6 <=50K	Never-married	Adm-clerical	Female	Puerto-Rico	White	Private	Bachelors	Own-child	nan	nan
2846	6 <=50K	Divorced	Tech-support	Female	Peru	White	Local-gov	Assoc- acdm	Not-in-family	nan	nan
<b>780</b> 3	<b>3</b> <=50K	Married-spouse- absent	Sales	Male	United-States	Asian-Pac- Islander	Self-emp-not- inc	Masters	Own-child	nan	nan
5594	1 <=50K	Married-civ-spouse	Other-service	Male	?	White	Private	HS-grad	Husband	45.000000	8.000000

income	marital.status	occupation	sex	native.country	race	workclass	education	relationship MAX(	`hours.per.week`) CO	UNT(*)
<b>6396</b> <=50K	Married-civ-spouse	Protective- serv	Female	Puerto-Rico	White	Private	HS-grad	Wife	39.944647	1
<b>8476</b> <=50K	Never-married	Adm-clerical	Female	Puerto-Rico	White	Private	Bachelors	Own-child	40.009431	5
<b>2846</b> <=50K	Divorced	Tech-support	Female	Peru	White	Local-gov	Assoc- acdm	Not-in-family	39.963949	1
<b>7803</b> <=50K	Married-spouse- absent	Sales	Male	United-States	Asian-Pac- Islander	Self-emp-not- inc	Masters	Own-child	40.006911	1
<b>5594</b> <=50K	Married-civ-spouse	Other-service	Male	?	White	Private	HS-grad	Husband	40.048950	10

 $SELECT\ income, `marital.status`, occupation, sex, `native.country`, race, workclass, education, relationship, MAX(`hours.per.week`), COUNT(*)\ FROM\ C1\ GROUP\ BY$ income, `marital.status`, occupation, sex, `native.country`, race, workclass, education, relationship

Resulted in 12664 records

 $\underline{SQL\ for\ Synthetic:}$ 

SELECT income, `marital.status`,occupation,sex, `native.country`,race,workclass,education,relationship,MAX(`hours.per.week`), COUNT(\*) FROM C1\_syn\_06 GROUP BY income, `marital.status`,occupation,sex, `native.country`,race,workclass,education,relationship

Resulted in 17127 records

Normalized Euclidean distance for (`hours.per.week`): 64.61

Hellinger Distance: 0.252

				Rea	l				
	workclass	sex	occupation	race	relationship	education	income	MIN(fnlwgt)	COUNT(*)
194	?	Male	?	Amer-Indian-Eskimo	Unmarried	Some-college	<=50K	98145	2
1295	Local-gov	Male	Adm-clerical	Other	Not-in-family	Some-college	<=50K	205262	1
5759	Self-emp-not-inc	Female	Sales	White	Unmarried	Assoc-acdm	>50K	128516	1
6247	Self-emp-not-inc	Male	Sales	White	Husband	Assoc-voc	>50K	26145	6
649	Federal-gov	Male	Armed-Forces	White	Husband	Assoc-voc	>50K	190653	1

Synthetic

	workclass	sex	occupation	race	relationship	education	income	MIN(fnlwgt)	COUNT(*)
194	?	Male	?	Amer-Indian-Eskimo	Unmarried	Some-college	<=50K	nan	nan
1295	Local-gov	Male	Adm-clerical	Other	Not-in-family	Some-college	<=50K	197979.302587	1.000000
5759	Self-emp-not-inc	Female	Sales	White	Unmarried	Assoc-acdm	>50K	nan	nan
6247	Self-emp-not-inc	Male	Sales	White	Husband	Assoc-voc	>50K	179600.881859	1.000000
649	Federal-gov	Male	Armed-Forces	White	Husband	Assoc-voc	>50K	nan	nan

SQL for Real:

work class, sex, occupation, race, relationship, education, income

Resulted in 7027 records

#### SQL for Synthetic:

 $SELECT\ work class, sex, occupation, race, relationship, education, income, MIN (fnlwgt),\ COUNT (*)\ FROM\ C1\_syn\_06\ GROUP\ BY\ work class, sex, occupation, race, relationship, education, income$ 

Resulted in 6287 records

Normalized Euclidean distance for (fnlwgt): 62.94

Hellinger Distance: 0.201

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# Real

	education	lace	occupation	retationship	WULKCIASS	SCA	шсоше	native.country	SUM(Capital)	COUNT(')
117	<b>3</b> 11th	White	Sales	Other-relative	Private	Female	<=50K	Nicaragua	nan	nan
590	5 Bachelors	White	Prof-specialty	Husband	Private	Male	>50K	Peru	-1848.000000	1.000000
115	<b>1</b> 11th	White	Protective-serv	Own-child	Private	Female	<=50K	United-States	0.000000	2.000000
930	7 HS-grad	White	Other-service	Unmarried	Private	Male	<=50K	Thailand	nan	nan
603	9 Bachelors	White	Prof-specialty	Not-in-family	State-gov	Female	<=50K	Puerto-Rico	nan	nan

#### Synthetic

	education	race	occupation	relationship	workclass	sex	income	native.country	SUM(capital)	COUNT(*)
1173	11th	White	Sales	Other-relative	Private	Female	<=50K	Nicaragua	-11.666286	1
<b>5905</b>	Bachelors	White	Prof-specialty	Husband	Private	Male	>50K	Peru	-154.563193	4
1151	11th	White	Protective-serv	Own-child	Private	Female	<=50K	United-States	114.923499	1
9307	HS-grad	White	Other-service	Unmarried	Private	Male	<=50K	Thailand	-122.335465	1
6039	Bachelors	White	Prof-specialty	Not-in-family	State-gov	Female	<=50K	Puerto-Rico	-83.164883	9

#### SQL for Real:

SELECT education, race, occupation, relationship, workclass, sex, income, `native.country`, SUM(capital), COUNT(\*) FROM C1 GROUP BY education, race, occupation, relationship, workclass, sex, income, `native.country`

Resulted in 9992 records

#### SQL for Synthetic:

SELECT education, race, occupation, relationship, workclass, sex, income, `native.country`, SUM(capital), COUNT(\*) FROM C1\_syn\_06 GROUP BY education, race, occupation, relationship, workclass, sex, income, `native.country`

Resulted in 13906 records

Normalized Euclidean distance for (capital): 60.46

Hellinger Distance: 0.257

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#### Real

## education SUM(age) COUNT(\*)

0	10th	52647	1389
1	11th	58241	1812
12	Masters	116926	2657
7	Assoc-acdm	60481	1601
8	Assoc-voc	79660	2061

#### Synthetic

		Dynamotic	
	${\bf education}$	SUM(age)	COUNT(*)
0	10th	54965.000000	1430.000000
1	11th	55417.000000	1694.000000
12	Masters	121790.000000	2810.000000
7	Assoc-acdm	65407.000000	1755.000000
8	Assoc-voc	73863.000000	1935.000000

#### SQL for Real:

SELECT education, SUM(age), COUNT(\*) FROM C1 GROUP BY education

Resulted in 16 records

# SQL for Synthetic:

SELECT education, SUM(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY education

Resulted in 16 records

Normalized Euclidean distance for (age): 4.0

Hellinger Distance: 0.026

# Real

## sex AVG('hours.per.week') COUNT(\*)

0	Female	36.400692	16192
1	Male	42.416845	32650

### Synthetic

# sex AVG('hours.per.week') COUNT(\*)

**0** Female 39.881125 17114.000000 **1** Male 40.040656 31728.000000

#### SQL for Real

SELECT sex,AVG(`hours.per.week`), COUNT(\*) FROM C1 GROUP BY sex

Resulted in 2 records

SQL for Synthetic:

SELECT sex,AVG('hours.per.week'), COUNT(\*) FROM C1\_syn\_06 GROUP BY sex

Resulted in 2 records

Normalized Euclidean distance for (`hours.per.week`): 1.41

Hellinger Distance: 0.014

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	income	workclass	native.country	education	race	occupation	sex	relationship	MAX(age)	COUNT(*)
2079	<=50K	Local-gov	Scotland	Masters	White	Prof-specialty	Female	Wife	nan	nan
13434	>50K	Private	United-States	Some-college	White	Handlers-cleaners	Male	Husband	58.000000	14.000000
4806	<=50K	Private	Italy	Bachelors	White	Other-service	Male	Husband	nan	nan
10874	<=50K	Self-emp-not-inc	Thailand	Some-college	White	Other-service	Male	Not-in-family	nan	nan
13533	>50K	Self-emp-inc	Puerto-Rico	Some-college	White	Sales	Male	Husband	nan	nan

### Synthetic

	income	workclass	native.country	education	race	occupation	sex	relationship	MAX(age)	COUNT(*)
2079	<=50K	Local-gov	Scotland	Masters	White	Prof-specialty	Female	Wife	52	2
1343	<b>4</b> >50K	Private	United-States	Some-college	White	Handlers-cleaners	Male	Husband	50	3
4806	<=50K	Private	Italy	Bachelors	White	Other-service	Male	Husband	37	1
1087	4 <=50K	Self-emp-not-inc	Thailand	Some-college	White	Other-service	Male	Not-in-family	24	1
1353	3 >50K	Self-emp-inc	Puerto-Rico	Some-college	White	Sales	Male	Husband	68	8

 $\underline{SQL\ for\ Real:}\\ SELECT\ income, workclass, `native.country`, education, race, occupation, sex, relationship, MAX(age),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, workclass, `native.country`, education, race, occupation, sex, relationship$ 

Resulted in 9992 records

# $\underline{SQL\ for\ Synthetic:}$

SELECT income,workclass, `native.country`,education,race,occupation,sex,relationship,MAX(age), COUNT(\*) FROM C1\_syn\_06 GROUP BY income,workclass, `native.country`,education,race,occupation,sex,relationship

Resulted in 13906 records

Normalized Euclidean distance for (age): 60.46

Hellinger Distance: 0.257

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 $Hellinger\ Distance\ Summary: \{'mean':\ 0.2078041925712827,\ 'median':\ 0.2523067213216237,\ 'stddev':\ 0.12632558408604722\} \\ Euclidean\ distance\ Summary: \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 23.717106405087968\} \\ Hellinger\ Distance\ Summary:\ \{'mean':\ 32.22667937857911,\ 'median':\ 29.2506405686264,\ 'stddev':\ 29.277106405087968,\ 'median':\ 29.27710640508,\ 'median$ 

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