Real

	sex	workclass	`marital.status`	`native.country`	race	income	occupation	capital	count	
1678	Female	Private	Never-married	India	White	<=50K	Sales	0.000000	2.000000	
3885	Male	Private	Divorced	Puerto-Rico	White	<=50K	Prof-specialty	nan	nan	
5711	Male	Self-emp-not-inc	Married-civ-spouse	Japan	White	<=50K	Other-service	nan	nan	
5432	Male	Self-emp-inc	Married-civ-spouse	Puerto-Rico	Black	<=50K	Adm-clerical	nan	nan	
1774	Female	Private	Never-married	Outlying-US(Guam-USVI-etc)	White	<=50K	Adm-clerical	nan	nan	

Synthetic

	sex	workclass	`marital.status`	`native.country`	race	income	occupation	capital	count
1678	Female	Private	Never-married	India	White	<=50K	Sales	-138.814834	4
3885	Male	Private	Divorced	Puerto-Rico	White	<=50K	Prof-specialty	-201.825684	25
5711	Male	Self-emp-not-inc	Married-civ-spouse	Japan	White	<=50K	Other-service	-149.797851	1
5432	Male	Self-emp-inc	Married-civ-spouse	Puerto-Rico	Black	<=50K	Adm-clerical	296.725167	1
1774	Female	Private	Never-married	Outlying-US(Guam-USVI-etc)	White	<=50K	Adm-clerical	-160.268406	10

SOL for Real

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

Resulted in 4708 records

SQL for Synthetic:

SELECT sex,workclass, `marital.status`, `native.country`,race,income,occupation,MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY sex,workclass, `marital.status`, `native.country`,race,income,occupation

Resulted in 6283 records

Normalized Euclidean distance for (capital): 43.77

Hellinger Distance: 0.485

Real

	education	`native.country`	sex	race	capital	count
1360	Some-college	Vietnam	Female	Asian-Pac-Islander	0.000000	7.000000
46	10th	Peru	Female	White	0.000000	2.000000
132	11th	Mexico	Male	White	-2179.000000	30.000000
371	7th-8th	Mexico	Female	White	0.000000	16.000000
678	Bachelors	Ecuador	Female	Asian-Pac-Islander	nan	nan

Synthetic

	education	`native.country`	sex	race	capital	count
1360	Some-college	Vietnam	Female A	Asian-Pac-Islander	-62.121954	2
46	10th	Peru	Female	White	-132.517991	8
132	11th	Mexico	Male	White	-17.994334	2
371	7th-8th	Mexico	Female	White	179.848446	1
678	Bacholore	Ecuador	Fomalo	Acian-Pac-Iclandor	216 644070	1

SQL for Real:

 $SELECT\ education, `native.country`, sex, race, MIN(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ education, `native.country`, sex, race\ Resulted\ in\ 1171\ records$

SQL for Synthetic:

 $SELECT\ education, `native.country`, sex, race, MIN(capital),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ education, `native.country`, sex, race, Resulted in 1368\ records$

Normalized Euclidean distance for (capital): 24.76

Hellinger Distance: 0.428

Real

	relationship	race	`marital.status`	workclass	income	education	occupation	sex	`hours.per.week`	count
494	Husband	Black	Married-civ-spouse	Private	<=50K	HS-grad	Handlers-cleaners	Male	40.384615	26
4388	Not-in-family	White	Never-married	State-gov	<=50K	Assoc-acdm	Exec-managerial	Female	58.000000	1
720	Husband	Other	Married-civ-spouse	Private	<=50K	Some-college	Sales	Male	60.000000	1
1135	Husband	White	Married-civ-spouse	Private	<=50K	Assoc-acdm	Transport-moving	Male	44.000000	6
2762	Not-in-family	Other	Divorced	Private	<=50K	7th-8th	Sales	Female	35.000000	1

Synthetic

	relationship	race	`marital.status`	workclass	income	education	occupation	sex	`hours.per.week`	count
494	Husband	Black	Married-civ-spouse	Private	<=50K	HS-grad	Handlers-cleaners	Male	40.002473	26.000000
438	3 Not-in-family	White	Never-married	State-gov	<=50K	Assoc-acdm	Exec-managerial	Female	39.964745	1.000000
720	Husband	Other	Married-civ-spouse	Private	<=50K	Some-college	Sales	Male	40.388653	1.000000
113	5 Husband	White	Married-civ-spouse	Private	<=50K	Assoc-acdm	Transport-moving	Male	40.238866	16.000000
276	2 Not-in-family	Other	Divorced	Private	<=50K	7th-8th	Sales	Female	nan	nan

SQL for Real:

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

Resulted in 9897 records

SQL for Synthetic:

SELECT relationship,race, `marital.status`,workclass,income,education,occupation,sex,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY relationship,race, `marital.status`,workclass,income,education,occupation,sex

Hellinger Distance: 0.328

Real

			Real			
	workclass	race	`native.country`	occupation	capital	count
173	Federal-gov	Black	United-States	Protective-serv	0.000000	9.000000
26	?	Black	Ireland	?	nan	nan
1898	State-gov	White	China	Prof-specialty	nan	nan
1867	State-gov	Black	United-States	Farming-fishing	0.000000	1.000000
884	Private	Black	Jamaica	Adm-clerical	0.000000	19.000000

Synthetic

	workclass	race	`native.country`	occupation	capital	\boldsymbol{count}
173	Federal-gov	Black	United-States	Protective-serv	-53.839967	6
26	?	Black	Ireland	?	44.174087	2
1898	State-gov	White	China	Prof-specialty	76.145786	1
1867	State-gov	Black	United-States	Farming-fishing	149.056705	1
884	Private	Black	Jamaica	Adm-clerical	-90.593481	3

SQL for Real:

SELECT workclass,race, `native.country`,occupation,MIN(capital), COUNT(*) FROM C1 GROUP BY workclass,race, `native.country`,occupation

Resulted in 1475 records

SQL for Synthetic:

SELECT workclass,race, `native.country`,occupation,MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY workclass,race, `native.country`,occupation

Resulted in 1993 records

Normalized Euclidean distance for (capital): 28.14

 $Hellinger\ Distance:\ 0.435$

Real

	relationship	occupation	sex	workclass	race	fnlwgt	count
1337	Unmarried	Prof-specialty	Female	Private	Amer-Indian-Eskimo	25864	4
905	Own-child	Craft-repair	Male	State-gov	White	24008	8
1319	Unmarried	Other-service	Male	Self-emp-inc	Asian-Pac-Islander	289886	1
104	Husband	Handlers-cleaners	Male	Local-gov	White	88564	20
1231	Unmarried	Exec-managerial	Male	Self-emp-inc	Asian-Pac-Islander	23510	2

Synthetic

				O y II di l'odio			
	relationship	occupation	sex	workclass	race	fnlwgt	count
1337	Unmarried	Prof-specialty	Female	Private	Amer-Indian-Eskimo	nan	nan
905	Own-child	Craft-repair	Male	State-gov	White	177142.224043	1.000000
1319	Unmarried	Other-service	Male	Self-emp-inc	Asian-Pac-Islander	nan	nan
104	Husband	Handlers-cleaners	Male	Local-gov	White	155914.087035	40.000000
1231	Unmarried	Exec-managerial	Male	Self-emp-inc	Asian-Pac-Islander	180963.866126	1.000000

SQL for Real:

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

Resulted in 1585 records

SQL for Synthetic:

SELECT relationship,occupation,sex,workclass,race,MIN(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY relationship,occupation,sex,workclass,race

Resulted in 1541 records

Normalized Euclidean distance for (fnlwgt): 34.66

Hellinger Distance: 0.115

Real

 workclass
 relationship
 capital
 count

 40
 State-gov
 Unmarried
 126097
 236

 36
 State-gov
 Husband
 649525
 773

 19
 Private
 Not-in-family
 5447174
 9115

 11
 Federal-gov
 Wife
 39288
 61

 10
 Federal-gov
 Unmarried
 50754
 185

Synthetic

 twickclass
 relationship
 capital
 count

 40
 State-gow
 Unmarried
 2328.548026
 251.000000

 36
 State-gow
 Husband
 -6500.616272
 738.000000

 10
 Private
 Not-in-family
 -636.292022
 8983.00000

 11
 Federal-gow
 Wife
 -1405.636857
 71.000000

 10
 Federal-gow
 Unmarried
 1375.674729
 168.000000

SQL for Real

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

Resulted in $42\ records$

SQL for Synthetic:

SELECT workclass, relationship, SUM(capital), COUNT(*) FROM C1_syn_06 GROUP BY workclass, relationship

Resulted in 42 records

Normalized Euclidean distance for (capital): 6.48

Hellinger Distance: 0.02

Real

	`marital.status`	`native.country`	sex	capital	count
304	Separated	Columbia	Female	0	3
248	Never-married	Hong	Female	0	4
8	Divorced	Columbia	Male	0	2
126	Married-civ-spouse	Mexico	Male	99999	422
376	Widowed	Jamaica	Female	0	1

Synthetic

	`marital.status`	`native.country`	sex	capital	count
304	Separated	Columbia	Female	176.633484	34.000000
248	Never-married	Hong	Female	nan	nan
8	Divorced	Columbia	Male	363.429949	104.000000
126	Married-civ-spouse	Mexico	Male	193.357404	33.000000
376	Widowed	Iamaica	Female	121.107972	13.000000

SQL for Real:

SELECT `marital.status`, `native.country`,sex,MAX(capital), COUNT(*) FROM C1 GROUP BY `marital.status`, `native.country`,sex

Resulted in 395 records

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

SELECT marital.status', native.country', sex, MAX(capital), COUNT(*) FROM C1_syn_06 GROUP BY 'marital.status', native.country', sex

Resulted in 328 records

Normalized Euclidean distance for (capital): 16.58

Hellinger Distance: 0.405

Real

	workclass	education	age	count
104	State-gov	Assoc-voc	22.000000	75.000000
74	Self-emp-inc	Doctorate	29.000000	55.000000
14	?	Prof-school	32.000000	24.000000
12	?	Masters	25.000000	67.000000
99	State-gov	1st-4th	64.000000	2.000000

Synthetic

workclass education age count

104	State-gov	Assoc-voc	19	75
74	Self-emp-inc	Doctorate	32	35
14	?	Prof-school	32	23
12	?	Masters	18	80
aa	State-gov	1ct_Ath	20	4

SQL for Real

SELECT workclass,education,MIN(age), COUNT(*) FROM C1 GROUP BY workclass,education

Resulted in 110 records

SQL for Synthetic:

SELECT workclass, education, MIN(age), COUNT(*) FROM C1_syn_06 GROUP BY workclass, education

Resulted in 112 records

Normalized Euclidean distance for (age): 10.49

Hellinger Distance: 0.033

I	Real
---	------

	sex	`native.country`	education	race	workclass	`hours.per.week`	count
1842	Male	Holand-Netherlands	Some-college	White	State-gov	nan	nan
190	Female	Columbia	HS-grad	Amer-Indian-Eskimo	Private	nan	nan
556	Female	Japan	Assoc-acdm	White	Private	nan	nan
2286	Male	Peru	Masters	White	Self-emp-inc	nan	nan
1693	Male	Cuba	HS-grad	White	?	40.000000	2.000000

Synthetic

Synthetic									
	sex	`native.country`	education	race	workclass	`hours.per.week`	count		
1842	Male	$Holand\hbox{-}Netherlands$	Some-college	White	State-gov	40.003790	1		
190	Female	Columbia	HS-grad	Amer-Indian-Eskimo	Private	40.002173	2		
556	Female	Japan	Assoc-acdm	White	Private	40.052153	10		
2286	Male	Peru	Masters	White	Self-emp-inc	40.380408	2		
1693	Male	Cuba	HS-grad	White	?	40.020425	1		

SQL for Real:

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

Resulted in 2342 records

SQL for Synthetic:

SELECT sex, `native.country`,education,race,workclass,MAX(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY sex, `native.country`,education,race,workclass Resulted in 3037 records

Normalized Euclidean distance for (`hours.per.week`): 32.36

Hellinger Distance: 0.442

Real

	occupation	`native.country`	race	sex	education	income	`marital.status`	workclass	capital	count
9922	Prof-specialty	Puerto-Rico	White	Female	Bachelors	>50K	Married-civ-spouse	Private	nan	nan
5101	Exec-managerial	United-States	White	Female	HS-grad	<=50K	Widowed	State-gov	0.000000	3.000000
2290	Adm-clerical	United-States	White	Male	HS-grad	<=50K	Never-married	Local-gov	0.000000	8.000000
903	Adm-clerical	Columbia	Black	Female	Assoc-acdm	<=50K	Married-civ-spouse	Private	nan	nan
3909	Exec-managerial	Columbia	White	Male	Bachelors	<=50K	Married-civ-spouse	Self-emp-inc	nan	nan

Synthetic

	occupation	`native.country`	race	sex	education	income	`marital.status`	workclass	capital	count
9922	2 Prof-specialty	Puerto-Rico	White	Female	Bachelors	>50K	Married-civ-spouse	Private	60.007068	2
5101	Exec-managerial	United-States	White	Female	HS-grad	<=50K	Widowed	State-gov	-309.855435	1
2290	Adm-clerical	United-States	White	Male	HS-grad	<=50K	Never-married	Local-gov	-66.920965	4
903	Adm-clerical	Columbia	Black	Female	Assoc-acdm	<=50K	Married-civ-spouse	Private	62.614144	1
3909	Exec-managerial	Columbia	White	Male	Bachelors	<=50K	Married-civ-spouse	Self-emp-inc	23.839091	1

SQL for Real:

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

Resulted in 10025 records

SQL for Synthetic:

SELECT occupation, `native.country`, race, sex, education, income, `marital.status`, workclass, AVG(capital), COUNT(*) FROM C1_syn_06 GROUP BY occupation, `native.country`, race, sex, education, income, `marital.status`, workclass

Resulted in 13875 records

Normalized Euclidean distance for (capital): 59.76

Hellinger Distance: 0.527

Real

	`native.country`	occupation	income	capital	count
217	Germany	Handlers-cleaners	>50K	0	1
561	Portugal	Handlers-cleaners	<=50K	0	6
715	Yugoslavia	Other-service	>50K	0	2
686	United-States	Tech-support	<=50K	6849	951
672	United-States	Handlers-cleaners	<=50K	10566	1687

Synthetic

	native.country	occupation	income	capital	count
217	Germany	Handlers-cleaners	>50K	nan	nan
561	Portugal	Handlers-cleaners	<=50K	nan	nan
715	Yugoslavia	Other-service	>50K	nan	nan
686	United-States	Tech-support	<=50K	515.992388	719.000000
672	United-States	Handlers-cleaners	<=50K	523.214732	1339.000000

SQL for Real:

SELECT `native.country`,occupation,income,MAX(capital), COUNT(*) FROM C1 GROUP BY `native.country`,occupation,income

Resulted in 718 records

SQL for Synthetic:

 $\begin{tabular}{ll} SELECT\ `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, occupation, income, MAX (capital), capital, capital,$

Resulted in 630 records

Normalized Euclidean distance for (capital): 21.56

Hellinger Distance: 0.415

Real

	relationship	education	race	`marital.status`	sex	workclass	fnlwgt	count
315	0 Unmarried	HS-grad	White	Separated	Male	Private	4576073	25
100	0 Not-in-family	HS-grad	Amer-Indian-Eskimo	Married-spouse-absent	Male	Private	100049	1
623	Not-in-family	9th	Black	Divorced	Female	Private	603192	3
139	Husband	Assoc-voc	White	Married-civ-spouse	Male	Local-gov	9409990	44
284	8 Unmarried	Assoc-voc	Black	Never-married	Female	Federal-gov	128553	1

Synthetic

	relationship	education	race	`marital.status`	sex	workclass	fnlwgt	count
3150	Unmarried	HS-grad	White	Separated	Male	Private	5585155.886501	31.000000
1000	Not-in-family	HS-grad	Amer-Indian-Eskimo	Married-spouse-absent	Male	Private	nan	nan
623	Not-in-family	9th	Black	Divorced	Female	Private	523579.238255	3.000000
139	Husband	Assoc-voc	White	Married-civ-spouse	Male	Local-gov	8893053.836802	49.000000
2848	Unmarried	Assoc-voc	Black	Never-married	Female	Federal-gov	nan	nan

SQL for Real:

SELECT relationship,education,race, `marital.status`,sex,workclass,SUM(fnlwgt), COUNT(*) FROM C1 GROUP BY relationship,education,race, `marital.status`,sex,workclass Resulted in 3583 records

SQL for Synthetic:

SELECT relationship,education,race, `marital.status`,sex,workclass,SUM(fnlwgt), COUNT(*) FROM C1 syn 06 GROUP BY relationship,education,race, `marital.status`,sex,workclass

Resulted in 3374 records

Normalized Euclidean distance for (fnlwgt): 47.13

Hellinger Distance: 0.172

	Real									
	`native.country`	occupation	race	education	workclass	`marital.status`	sex	fnlwgt	count	
11995	United-States	Sales	White	10th	Private	Divorced	Female	236939.909091	11.000000	
759	?	Transport-moving	White	HS-grad	Private	Divorced	Male	31438.000000	1.000000	
912	China	Other-service	Asian-Pac-Islander	Bachelors	Private	Never-married	Female	nan	nan	
3974	Laos	Exec-managerial	Black	HS-grad	Private	Married-civ-spouse	Male	nan	nan	
12683	Yugoslavia	Farming-fishing	White	Some-college	Private	Divorced	Male	nan	nan	
				Synthetic						
	`nativo country`	occupation	raco	3	workelass	`marital etatue`	COV	fnlwat	count	

				Synthetic					
	`native.country`	occupation	race	education	workclass	`marital.status`	sex	fnlwgt	count
11995	United-States	Sales	White	10th	Private	Divorced	Female	175551.026829	6
759	?	Transport-moving	White	HS-grad	Private	Divorced	Male	166784.371102	6
912	China	Other-service	Asian-Pac-Islander	Bachelors	Private	Never-married	Female	180297.156993	1
3974	Laos	Exec-managerial	Black	HS-grad	Private	Married-civ-spouse	Male	178918.614076	1
12683	Yugoslavia	Farming-fishing	White	Some-college	Private	Divorced	Male	182742.574294	1

SQL for Real:

 $SELECT\ `native.country', occupation, race, education, workclass, `marital.status', sex, AVG (fnlwgt),\ COUNT (*)\ FROM\ C1\ GROUP\ BY (*)\ FROM\ C2\ GROUP\ BY (*)\ FROM\ C3\ GROUP\ BY (*)\ FROM$ `native.country`,occupation,race,education,workclass,`marital.status`,sex

Resulted in 8789 records

SQL for Synthetic:
SELECT `native.country`,occupation,race,education,workclass, `marital.status`,sex,AVG(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY

Resulted in 12726 records

Normalized Euclidean distance for (fnlwgt): 57.97

Hellinger Distance: 0.508

			Real			
	occupation	sex	relationship	workclass	age	count
37	Adm-clerical	Female	Not-in-family	Self-emp-inc	40.000000	4.000000
258	Farming-fishing	Male	Own-child	State-gov	24.600000	5.000000
15	?	Male	Husband	?	58.524613	711.000000
399	Other-service	Male	Not-in-family	Local-gov	42.142857	28.000000
408	Other-service	Male	Own-child	Federal-gov	26.600000	5.000000

Synthetic

	occupation	sex	relationship	workclass	age	count
37	Adm-clerical	Female	Not-in-family	Self-emp-inc	27.333333	3
258	Farming-fishing	Male	Own-child	State-gov	23.000000	5
15	?	Male	Husband	?	57.631024	664
399	Other-service	Male	Not-in-family	Local-gov	39.850000	20
408	Other-service	Male	Own-child	Federal-gov	28.800000	5

SQL for Real:

SELECT occupation, sex, relationship, workclass, AVG(age), COUNT(*) FROM C1 GROUP BY occupation, sex, relationship, workclass

Resulted in 634 records

SQL for Synthetic:

SELECT occupation,sex,relationship,workclass,AVG(age), COUNT(*) FROM C1_syn_06 GROUP BY occupation,sex,relationship,workclass

Resulted in 696 records

Normalized Euclidean distance for (age): 23.94

Hellinger Distance: 0.08

					Real						
	occupation	`marital.status`	sex	`native.country`	education	relationship	workclass	income	race	age	count
58	?	Divorced	Female	Puerto-Rico	Some-college	Own-child	?	<=50K	White	nan	nan
3346	Craft-repair	Divorced	Male	Puerto-Rico	7th-8th	Not-in-family	Private	<=50K	Black	nan	nan
330	?	Married-civ-spouse	Male	Japan	10th	Husband	?	<=50K	White	nan	nan
3949	Craft-repair	Married-civ-spouse	Male	United-States	7th-8th	Husband	Self-emp-inc	>50K	White	48.000000 3	3.000000
16924	Γransport-moving	Never-married	Male	Iran	Some-college	Own-child	Private	<=50K	White	nan	nan

Synthetic

	occupation	`marital.status`	sex	`native.country`	education	relationship	workclass	income	race	age o	ount
58	?	Divorced	Female	Puerto-Rico	Some-college	Own-child	?	<=50K	White	25	1
3346	Craft-repair	Divorced	Male	Puerto-Rico	7th-8th	Not-in-family	Private	<=50K	Black	47	1
330	?	Married-civ-spouse	Male	Japan	10th	Husband	?	<=50K	White	59	3
3949	Craft-repair	Married-civ-spouse	Male	United-States	7th-8th	Husband	Self-emp-inc	>50K	White	40	1
16924	Transport-moving	Never-married	Male	Iran	Some-college	Own-child	Private	<=50K	White	23	1

SQL for Real

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

Resulted in 12664 records

SQL for Synthetic:

SELECT occupation, 'marital.status', sex, 'native.country', education, relationship, workclass, income, race, MIN(age), COUNT(*) FROM C1_syn_06 GROUP BY occupation, 'marital.status', sex, 'native.country', education, relationship, workclass, income, race

Resulted in 17127 records

Normalized Euclidean distance for (age): 64.61

Hellinger Distance: 0.549

Rea

	`marital.status`	income	capital	count
6	Married-spouse-absent	<=50K	50.671930	570
10	Separated	<=50K	85.704403	1431
12	Widowed	<=50K	100.611511	1390
8	Never-married	<=50K	48.342304	15384
3	Married-AF-spouse	>50K	7558.000000	14

Synthetic

	`marital.status`	income	capital	count
6	Married-spouse-absent	<=50K	8.074542	525.000000
10	Separated	<=50K	4.623251	1477.000000
12	Widowed	<=50K	1.833903	1535.000000
8	Never-married	<=50K	2.018341	16139.000000
3	Married-AF-spouse	>50K	nan	nan

SQL for Real:

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

Resulted in 14 records

SQL for Synthetic:

 $SELECT\ `marital.status\ `, income, AVG (capital),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ `marital.status\ `, income, avg.\ `mar$

Resulted in 13 records

Normalized Euclidean distance for (capital): 3.61

Hellinger Distance: 0.147

Real

	occupation	`native.country`	`marital.status`	race	workclass	relationship	sex	education	fnlwgt	count
12616	Protective-serv	?	Married-civ-spouse	White	Local-gov	Husband	Male	HS-grad	nan	nan
5821	Exec-managerial	United-States	Married-civ-spouse	White	Local-gov	Other-relative	Female	Assoc-acdm	nan	nan
3396	Craft-repair	Ireland	Never-married	White	Private	Own-child	Male	HS-grad	nan	nan
552	?	Puerto-Rico	Widowed	White	?	Unmarried	Male	Bachelors	nan	nan
10409	Other-service	United-States	Separated	White	State-gov	Not-in-family	Female	HS-grad	32174.000000	3.000000

Synthetic

)						
	occupation	`native.country`	`marital.status`	race	workclass	relationship	sex	education	fnlwgt	count
12616	Protective-serv	?	Married-civ-spouse	White	Local-gov	Husband	Male	HS-grad	165289.768678	1
5821	Exec-managerial	United-States	Married-civ-spouse	White	Local-gov	Other-relative	Female	Assoc-acdm	189158.928175	1
3396	Craft-repair	Ireland	Never-married	White	Private	Own-child	Male	HS-grad	178298.640403	1
552	?	Puerto-Rico	Widowed	White	?	Unmarried	Male	Bachelors	169294.063949	1
10409	Other-service	United-States	Separated	White	State-gov	Not-in-family	Female	HS-grad	159488.703803	2

SQL for Real:

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

Resulted in 11374 records

SQL for Synthetic:

 $SELECT\ occupation, `native.country`, `marital.status`, race, workclass, relationship, sex, education, MIN(fnlwgt),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ occupation, `native.country`, `marital.status`, race, workclass, relationship, sex, education$

Resulted in 15994 records

Normalized Euclidean distance for (fnlwgt): 63.12

Hellinger Distance: 0.53

			real				
	race	relationship	workclass	sex	occupation	age	count
1337	White	Own-child	Private	Female	Sales	61	519
260	Asian-Pac-Islander	Not-in-family	Private	Female	Exec-managerial	44	11
399	Asian-Pac-Islander	Unmarried	Private	Female	Other-service	54	11
898	Other	Not-in-family	Private	Male	Sales	33	5
1227	White	Other-relative	Private	Female	Farming-fishing	73	6

Synthetic

	race	${\bf relationship}$	workclass	sex	occupation	age	count
1337	White	Own-child	Private	Female	Sales	65.000000	592.000000
260	Asian-Pac-Islander	Not-in-family	Private	Female	Exec-managerial	55.000000	7.000000
399	Asian-Pac-Islander	Unmarried	Private	Female	Other-service	55.000000	5.000000
898	Other	Not-in-family	Private	Male	Sales	26.000000	4.000000
1227	White	Other-relative	Private	Female	$Farming\hbox{-}fishing$	40.000000	2.000000

SQL for Real:

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

Resulted in 1585 records

SQL for Synthetic:

SELECT race, relationship, workclass, sex, occupation, MAX(age), COUNT(*) FROM C1_syn_06 GROUP BY race, relationship, workclass, sex, occupation

Resulted in 1541 records

Normalized Euclidean distance for (age): 34.66

Hellinger Distance: 0.115

	race	occupation	`marital.status`	`native.country`	education	relationship	sex	capital	count
2791	Black	Sales	Never-married	Holand-Netherlands	HS-grad	Unmarried	Female	nan	nan
10891	White	Sales	Never-married	?	Some-college	Own-child	Male	0.000000	5.000000
9321	White	Prof-specialty	Divorced	Columbia	HS-grad	Own-child	Male	nan	nan
3752	White	?	Never-married	Japan	HS-grad	Not-in-family	Male	nan	nan
9464	White	Prof-specialty	Divorced	United-States	Prof-school	Not-in-family	Female	2354.000000	9.000000

Synthetic

	race	occupation	`marital.status`	`native.country`	education	relationship	sex	capital	count
2791	Black	Sales	Never-married	Holand-Netherlands	HS-grad	Unmarried	Female	148.083376	1
10891	White	Sales	Never-married	?	Some-college	Own-child	Male	190.897067	4
9321	White	Prof-specialty	Divorced	Columbia	HS-grad	Own-child	Male	-77.623705	1
3752	White	?	Never-married	Japan	HS-grad	Not-in-family	Male	-16.712433	1
9464	White	Prof-specialty	Divorced	United-States	Prof-school	Not-in-family	Female	801.155919	6

SOL for Real

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

Resulted in 8385 records

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

SELECT race,occupation, `marital.status`, `native.country`,education,relationship,sex,SUM(capital), COUNT(*) FROM C1_syn_06 GROUP BY race,occupation, `marital.status`, `native.country`,education,relationship,sex

Resulted in 12141 records

Normalized Euclidean distance for (capital): 56.07

Hellinger Distance: 0.505

Real

	sex	race	age	count
4	Female	White	17	13027
5	Male	Amer-Indian-Eskimo	17	285
3	Female	Other	17	155
0	Female	Amer-Indian-Eskimo	17	185
9	Male	White	17	28735

Synthetic

	sex	race	age	count
4	Female	White	17.000000	14473.000000
5	Male	Amer-Indian-Eskimo	17.000000	133.000000
3	Female	Other	17.000000	159.000000
0	Female	Amer-Indian-Eskimo	17.000000	69.000000
9	Male	White	17.000000	28906.000000

SQL for Real:

SELECT sex,race,MIN(age), COUNT(*) FROM C1 GROUP BY sex,race

Resulted in 10 records

SQL for Synthetic:

 ${\tt SELECT~sex, race, MIN (age),~COUNT (*)~FROM~C1_syn_06~GROUP~BY~sex, race}$

Resulted in 10 records

Normalized Euclidean distance for (age): 3.16

Real

	education	`native.country`	sex	fnlwgt	count
702	Some-college	Dominican-Republic	Female	1329779	7
568	HS-grad	Taiwan	Female	740504	3
190	5th-6th	Philippines	Female	517667	6
476	Doctorate	England	Female	390809	2
280	9th	Trinadad&Tobago	Male	510508	2

Synthetic

	education	`native.country`	sex	fnlwgt	count
702	Some-college	Dominican-Republic	Female	1852202.909016	10.000000
568	HS-grad	Taiwan	Female	2970447.601550	16.000000
190	5th-6th	Philippines	Female	nan	nan
476	Doctorate	England	Female	nan	nan
280	9th	Trinadad&Tobago	Male	nan	nan

SQL for Real:

SELECT education, `native.country`, sex, SUM(fnlwgt), COUNT(*) FROM C1 GROUP BY education, `native.country`, sex

Resulted in 770 records

SQL for Synthetic:

SELECT education, 'native.country', sex, SUM(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY education, 'native.country', sex

Resulted in 708 records

Normalized Euclidean distance for (fnlwgt): 21.63

Hellinger Distance: 0.397

Real

	race	sex	workclass	income	occupation	`native.country`	`marital.status`	relationship	fnlwgt	count
4091	White	Female	Private	<=50K	Machine-op-inspct	Japan	Divorced	Own-child	nan	nan
8535	White	Male	Self-emp-not-inc	<=50K	Sales	Puerto-Rico	Separated	Unmarried	nan	nan
3823	White	Female	Private	<=50K	Exec-managerial	England	Divorced	Not-in-family	345363.000000	1.000000
4952	White	Female	Private	>50K	Exec-managerial	Peru	Married-civ-spouse	Wife	nan	nan
7130	White	Male	Private	<=50K	Machine-op-inspct	United-States	Divorced	Not-in-family	172795.772277	101.000000

Synthetic

	race	sex	workclass	income	occupation	`native.country`	`marital.status`	relationship	fnlwgt	count
4091	White	Female	Private	<=50K	Machine-op-inspct	Japan	Divorced	Own-child	178158.122077	1
8535	White	Male	Self-emp-not-inc	<=50K	Sales	Puerto-Rico	Separated	Unmarried	169499.414813	2
3823	White	Female	Private	<=50K	Exec-managerial	England	Divorced	Not-in-family	185243.552548	1
4952	White	Female	Private	>50K	Exec-managerial	Peru	Married-civ-spouse	Wife	178758.488048	1
7130	White	Male	Private	<=50K	Machine-op-inspct	United-States	Divorced	Not-in-family	180335.893349	51

SQL for Real

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

Resulted in 6492 records

SQL for Synthetic:

 $SELECT\ race, sex, work class, income, occupation, `native.country`, `marital.status`, relationship, AVG(fnlwgt), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ race, sex, work class, income, occupation, `native.country`, `marital.status`, relationship$

Resulted in 8900 records

Normalized Euclidean distance for (fnlwgt): 49.69

Hellinger Distance: 0.502

Real

	education	occupation	income sex	`marital.status`	workclass	relationship	race	`native.country`	capital	count
2246	5th-6th	Other-service	<=50K Male	Never-married	Private	Not-in-family	Other	Mexico	nan	nan
8199	HS-grad	?	<=50K Male	Married-civ-spouse	?	Husband	Asian-Pac-Islander	United-States	0.000000	1.000000
3470	Assoc-acdm	Craft-repair	<=50K Male	Divorced	Private	Own-child	Black	Puerto-Rico	nan	nan
3022	9th	Machine-op-inspct	<=50K Male	Married-civ-spouse	Private	Wife	White	United-States	nan	nan
3179	9th	Sales	<=50K Male	Married-civ-spouse	Private	Husband	White	Scotland	nan	nan

Synthetic

	education	occupation	income s	ex `marital.status`	workclass	s relationship	race	`native.country`	capital	count	
2246	5th-6th	Other-service	<=50K M	ale Never-married	Private	Not-in-family	Other	Mexico	15.723573	1	
8199	HS-grad	?	<=50K M	ale Married-civ-spouse	?	Husband	Asian-Pac-Islander	United-States	33.113111	1	
3470	Assoc-acdm	Craft-repair	<=50K M	ale Divorced	Private	Own-child	Black	Puerto-Rico	94.207506	1	
3022	9th	Machine-op-inspct	<=50K M	ale Married-civ-spouse	Private	Wife	White	United-States	8.452567	1	
3179	9th	Sales	<=50K M	ale Married-civ-spouse	Private	Husband	White	Scotland	-25.950411	1	

SQL for Real:

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

SQL for Synthetic:

 $SELECT\ education, occupation, income, sex, `marital.status`, workclass, relationship, race, `native.country`, MIN(capital), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ education, occupation, income, sex, `marital.status`, workclass, relationship, race, `native.country`$

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.549

	Real										
	income	relationship	`marital.status`	`native.country`	sex	workclass	education	race	occupation	fnlwgt	count
8801	<=50K	Other-relative	Never-married	United-States	Male	?	7th-8th	White	?	nan	nan
3586	<=50K	Not-in-family	Divorced	Laos	Male	Private	Assoc-acdm	White	Machine-op-inspct	nan	nan
8337	<=50K	Other-relative	Married-civ-spouse	Outlying-US(Guam-USVI-etc)	Female	Local-gov	12th	White	Prof-specialty	nan	nan
4127	<=50K	Not-in-family	Divorced	United-States	Female	Federal-gov	HS-grad	Black	Other-service	nan	nan
15999	>50K	Husband	Married-civ-snouse	Taiwan	Male	Federal-gov	HS-grad	White	Exec-managerial	nan	nan

				Syn	thetic						
	income	relationship	`marital.status`	`native.country`	sex	workclass	education	race	occupation	fnlwgt	count
8801	<=50K	Other-relative	Never-married	United-States	Male	?	7th-8th	White	?	181347.681075	2
3586	<=50K	Not-in-family	Divorced	Laos	Male	Private	Assoc-acdm	White	Machine-op-inspct	178919.341283	1
8337	<=50K	Other-relative	Married-civ-spouse	Outlying-US(Guam-USVI-etc)	Female	Local-gov	12th	White	Prof-specialty	200247.050933	1
4127	<=50K	Not-in-family	Divorced	United-States	Female	Federal-gov	HS-grad	Black	Other-service	186742.153911	1
15999	>50K	Husband	Married-civ-spouse	Taiwan	Male	Federal-gov	HS-grad	White	Exec-managerial	180045.368579	1

SQL for Real:

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

Resulted in 12664 records

SQL for Synthetic:

SELECT income, relationship, `marital.status`, `native.country`, sex, workclass, education, race, occupation, MIN(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY income, relationship, `marital.status`, `native.country`, sex, workclass, education, race, occupation

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.549

	Real											
	workclass	race	relationship	education	sex	occupation	income	`marital.status`	`hours.per.week`	count		
4140	Private	Black	Unmarried	HS-grad	Male	Transport-moving	<=50K	Widowed	40	1		
5040	Private	White	Not-in-family	7th-8th	Male	Machine-op-inspct	<=50K	Never-married	135	3		
6456	Private	White	Own-child	HS-grad	Female	Other-service	<=50K	Never-married	3541	118		
2034	Local-gov	White	Not-in-family	Some-college	Male	Protective-serv	>50K	Separated	40	1		
6291	Private	White	Own-child	9th	Male	Handlers-cleaners	<=50K	Separated	38	1		

	Synthetic										
	workclass	race	relationship	education	sex	occupation	income	`marital.status`	`hours.per.week`	count	
4140	Private	Black	Unmarried	HS-grad	Male	Transport-moving	<=50K	Widowed	39.950993	1.000000	
5040	Private	White	Not-in-family	7th-8th	Male	Machine-op-inspct	<=50K	Never-married	39.964594	1.000000	
6456	Private	White	Own-child	HS-grad	Female	Other-service	<=50K	Never-married	6914.635101	174.000000	
2034	Local-gov	White	Not-in-family	Some-college	Male	Protective-serv	>50K	Separated	nan	nan	
6291	Private	White	Own-child	9th	Male	Handlers-cleaners	<=50K	Separated	39.967924	1.000000	

SQL for Rea

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

Resulted in 9897 records

SQL for Synthetic:

SELECT workclass,race,relationship,education,sex,occupation,income, `marital.status`,SUM(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY workclass,race,relationship,education,sex,occupation,income, `marital.status`

Resulted in 9113 records

Normalized Euclidean distance for ('hours.per.week'): $69.99\,$

Hellinger Distance: 0.328

Real

sex income fnlwgt count

0 Female <=50K 12285 14423 **2** Male <=50K 13492 22732 **3** Male >50K 13769 9918

1 Female >50K 19678 1769

Synthetic

	sex	income	fnlwgt	count
0	Female	<=50K	119208.217505	16355.000000
2	Male	<=50K	117274.397609	27725.000000
3	Male	>50K	125480.943358	4003.000000
1	Female	>50K	144456.010499	759.000000

SQL for Real:

SELECT sex,income,MIN(fnlwgt), COUNT(*) FROM C1 GROUP BY sex,income

Resulted in 4 records

SQL for Synthetic:

SELECT sex,income, MIN(fnlwgt), COUNT(*) FROM C1 syn 06 GROUP BY sex,income

Resulted in 4 records

Normalized Euclidean distance for (fnlwgt): 2.0

Hellinger Distance: 0.137

n	 1

	race	education	`marital.status`	`native.country`	age	count
1523	White	Assoc-acdm	Separated	Japan	nan	nan
196	Asian-Pac-Islander	Bachelors	Married-civ-spouse	Thailand	53.000000	3.000000
729	Black	HS-grad	Never-married	Jamaica	48.000000	16.000000
1315	White	5th-6th	Widowed	Cambodia	nan	nan
85	Amer-Indian-Eskimo	Some-college	Married-spouse-absent	United-States	50.000000	3.000000

Synthetic

	race	education	`marital.status`	`native.country`	age count	
1523	White	Assoc-acdm	Separated	Japan	44	2
196	Asian-Pac-Islander	Bachelors	Married-civ-spouse	Thailand	48	14
729	Black	HS-grad	Never-married	Jamaica	46	1
1315	White	5th-6th	Widowed	Cambodia	63	1
85	Amer-Indian-Eskimo	Some-college	Married-spouse-absent	United-States	27	1

SQL for Real:

SELECT race, education, `marital.status`, `native.country`, MAX(age), COUNT(*) FROM C1 GROUP BY race, education, `marital.status`, `native.country` Resulted in 1806 records

SQL for Synthetic:

SELECT race,education, `marital.status`, `native.country`,MAX(age), COUNT(*) FROM C1_syn_06 GROUP BY race,education, `marital.status`, `native.country`

Resulted in 2217 records

Normalized Euclidean distance for (age): 29.21

Hellinger Distance: 0.438

Real

	education	sex	race	age	count
145	Some-college	Female	Asian-Pac-Islander	3396	112
132	Preschool	Male	Other	99	2
9	10th	Male	White	31198	811
118	Masters	Female	Black	2742	65
86	Assoc-voc	Male	Other	177	6

Synthetic

	education	sex	race	age	count
145	Some-college	Female	Asian-Pac-Islander	1826.000000	53.000000
132	Preschool	Male	Other	35.000000	1.000000
9	10th	Male	White	33378.000000	851.000000
118	Masters	Female	Black	2992.000000	73.000000
86	Assoc-voc	Male	Other	250 000000	8 000000

SQL for Real:

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

Resulted in 154 records

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

SELECT education,sex,race,SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY education,sex,race

Resulted in 150 records

Normalized Euclidean distance for (age): 12.12

Hellinger Distance: 0.059

Real

	relationship	race	workclass	sex	education	income	occupation	`native.country`	`marital.status`	age	count
5777	Not-in-family	White	Local-gov	Female	HS-grad	<=50K	Transport-moving	United-States	Widowed	57.000000	1.000000
14346	Unmarried	White	Private	Female	10th	<=50K	Other-service	Guatemala	Divorced	nan	nan
12007	Own-child	White	Private	Female	Some-college	<=50K	Sales	United-States	Divorced	126.000000	4.000000
8312	Not-in-family	White	Private	Male	Prof-school	>50K	Exec-managerial	Ireland	Never-married	nan	nan
498	Husband	Black	Local-gov	Male	HS-grad	$\leq =50K$	Protective-serv	Puerto-Rico	Married-civ-spouse	20.000000	1.000000

Synthetic

	relationship	race	workclass	sex	education	income	occupation	`native.country`	`marital.status`	age c	ount
5777	Not-in-family	White	Local-gov	Female	HS-grad	<=50K	Transport-moving	United-States	Widowed	64	1
14346	Unmarried	White	Private	Female	10th	<=50K	Other-service	Guatemala	Divorced	33	1
12007	Own-child	White	Private	Female	Some-college	<=50K	Sales	United-States	Divorced	230	7
8312	Not-in-family	White	Private	Male	Prof-school	>50K	Exec-managerial	Ireland	Never-married	31	1
498	Husband	Black	Local-gov	Male	HS-grad	<=50K	Protective-serv	Puerto-Rico	Married-civ-spouse	33	1

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

Resulted in 12664 records

SQL for Synthetic:

SELECT relationship,race,workclass,sex,education,income,occupation, `native.country`, `marital.status`,SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY relationship,race,workclass,sex,education,income,occupation, `native.country`, `marital.status`

Resulted in 17127 records

Normalized Euclidean distance for (age): 64.61

Hellinger Distance: 0.549

	workclass	occupation	income	sex	`hours.per.week`	count
109	Local-gov	Tech-support	<=50K	Male	56.000000	20.000000
234	Self-emp-not-inc	Other-service	>50K	Female	65.000000	9.000000
161	Private	Tech-support	<=50K	Male	89.000000	410.000000
75	Local-gov	Adm-clerical	>50K	Male	50.000000	21.000000
192	Self-emp-inc	Prof-specialty	<=50K	Female	99.000000	13.000000

Synthetic

	workclass	occupation	income	sex	`hours.per.week`	count
10	9 Local-gov	Tech-support	<=50K	Male	40.066562	18
23	4 Self-emp-not-inc	Other-service	>50K	Female	40.018351	2
16	1 Private	Tech-support	<=50K	Male	40.098295	578
75	Local-gov	Adm-clerical	>50K	Male	40.080072	11
19	2 Self-emp-inc	Prof-specialty	<=50K	Female	40.059221	31

SQL for Real:

SELECT workclass,occupation,income,sex,MAX(`hours.per.week`), COUNT(*) FROM C1 GROUP BY workclass,occupation,income,sex Resulted in 289 records

SQL for Synthetic:

SELECT workclass,occupation,income,sex,MAX('hours.per.week'), COUNT(*) FROM C1 syn 06 GROUP BY workclass,occupation,income,sex Resulted in 293 records

Normalized Euclidean distance for (`hours.per.week`): 16.16

Hellinger Distance: 0.157

Real

	`marital.status`	`native.country`	education	race	relationship	workclass	occupation	sex	capital	count
1266	Divorced	Puerto-Rico	Assoc-voc	Asian-Pac-Islander	Wife	State-gov	Adm-clerical	Female	nan	nan
5998	Married-civ-spouse	Puerto-Rico	Prof-school	Asian-Pac-Islander	Husband	Federal-gov	Prof-specialty	Male	nan	nan
2255	Divorced	United-States	Assoc-voc	Black	Other-relative	Private	Adm-clerical	Female	nan	nan
2386	Divorced	United-States	Bachelors	White	Not-in-family	?	?	Female	0.000000	10.000000
9870	Never-married	Laos	11th	Black	Unmarried	Private	Craft-repair	Female	nan	nan

Synthetic

				- ,							
	`marital.status`	`native.country`	education	race	relationship	workclass	occupation	sex	capital	count	
1266	Divorced	Puerto-Rico	Assoc-voc	Asian-Pac-Islander	Wife	State-gov	Adm-clerical	Female	46.401880	1	
5998 N	Married-civ-spouse	Puerto-Rico	Prof-school	Asian-Pac-Islander	Husband	Federal-gov	Prof-specialty	Male	-105.159754	1	
2255	Divorced	United-States	Assoc-voc	Black	Other-relative	Private	Adm-clerical	Female	-13.435480	1	
2386	Divorced	United-States	Bachelors	White	Not-in-family	?	?	Female	13.431196	6	
9870	Never-married	Laos	11th	Black	Unmarried	Private	Craft-repair	Female	-171.068270	1	

SQL for Real:

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

Resulted in 11374 records

SQL for Synthetic:

SELECT `marital.status`, `native.country`,education,race,relationship,workclass,occupation,sex,AVG(capital), COUNT(*) FROM C1_syn_06 GROUP BY `marital.status`, `native.country`, education, race, relationship, work class, occupation, sex

Resulted in 15994 records

Normalized Euclidean distance for (capital): 63.12

Hellinger Distance: 0.53

Real

	race	`native.country`	relationship	`hours.per.week`	count
145	Black	?	Own-child	38.692308	13.000000
54	Asian-Pac-Islander	China	Own-child	32.857143	7.000000
249	Black	Philippines	Wife	nan	nan
353	White	Cambodia	Husband	45.000000	1.000000
170	Black	Ecuador	Unmarried	nan	nan

Synthetic

	race	`native.country`	relationship	`hours.per.week`	count
145	Black	?	Own-child	39.750535	23
54 As	ian-Pac-Islander	China	Own-child	40.016561	2
249	Black	Philippines	Wife	40.021240	2
353	White	Cambodia	Husband	39.664256	5
170	Black	Ecuador	Unmarried	39.967676	3

SQL for Real:

SELECT race, `native.country`,relationship,AVG(`hours.per.week'), COUNT(*) FROM C1 GROUP BY race, `native.country`,relationship

Resulted in 455 records

SQL for Synthetic:

SELECT race, `native.country`,relationship,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY race, `native.country`,relationship

Resulted in 549 records

Normalized Euclidean distance for (`hours.per.week`): 17.41

Hellinger Distance: 0.424

Real

occupation workclass race education age count sex 2322 Male Sales Local-gov White Some-college 41 Sales Private White 70 60 941 Female 10th 2505 Male Tech-support State-gov White Doctorate 33 1287 Male Craft-repair Federal-gov White Assoc-voc 55 7 **53** Female Adm-clerical White HS-grad 52 1

Synthetic

	sex	occupation	workclass	race	education	age	count
2322	Male	Sales	Local-gov	White	Some-college	75.000000	5.000000
941	Female	Sales	Private	White	10th	68.000000	59.000000
2505	Male	Tech-support	State-gov	White	Doctorate	45.000000	2.000000
1287	Male	Craft-repair	Federal-gov	White	Assoc-voc	50.000000	2.000000
53	Female	Adm-clerical	?	White	HS-grad	65.000000	2.000000

SQL for Real:

SELECT sex,occupation,workclass,race,education,MAX(age), COUNT(*) FROM C1 GROUP BY sex,occupation,workclass,race,education Resulted in 2647 records

SQL for Synthetic:

SELECT sex,occupation,workclass,race,education,MAX(age), COUNT(*) FROM C1_syn_06 GROUP BY sex,occupation,workclass,race,education Resulted in 2536 records

Normalized Euclidean distance for (age): 42.91

Hellinger Distance: 0.147

Real

	`native.country`	`marital.status`	income	relationship	sex	education	occupation	capital	count
10412	United-States	Widowed	<=50K	Unmarried	Female	Assoc-acdm	Adm-clerical	0.000000	6.000000
781	China	Never-married	<=50K	Not-in-family	Female	HS-grad	Other-service	nan	nan
6322	Puerto-Rico	Never-married	<=50K	Own-child	Male	12th	?	nan	nan
7704	United-States	Divorced	<=50K	Not-in-family	Male	Preschool	Farming-fishing	nan	nan
4411	Peru	Divorced	<=50K	Unmarried	Male	Assoc-acdm	Exec-managerial	nan	nan

Synthetic

	`native.country`	`marital.status`	income	relationship	sex	education	occupation	capital	count
10412	United-States	Widowed	<=50K	Unmarried	Female	Assoc-acdm	Adm-clerical	4.942070	1
781	China	Never-married	<=50K	Not-in-family	Female	HS-grad	Other-service	65.012206	2
6322	Puerto-Rico	Never-married	<=50K	Own-child	Male	12th	?	-28.128259	7
7704	United-States	Divorced	<=50K	Not-in-family	Male	Preschool	Farming-fishing	128.790123	1
4411	Peru	Divorced	<=50K	Unmarried	Male	Assoc-acdm	Exec-managerial	22.677996	1

SQL for Real:

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

Resulted in 7337 records

SOL for Synthetic:

SELECT `native.country`, `marital.status`,income,relationship,sex,education,occupation,AVG(capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`, `marital.status`,income,relationship,sex,education,occupation

Resulted in 10629 records

Normalized Euclidean distance for (capital): 53.74

Real

relationship `native.country sex workclass age 367 Not-in-family ? 28.000000 3.000000 Taiwan Female **76** Husband Japan Male Self-emp-inc 43.000000 3.000000 Private 902 Unmarried Yugoslavia Female 49.000000 1.000000 Wife ? 30.000000 1.000000 993 Taiwan Female **547** Own-child Columbia Male State-gov nan nan

Synthetic

relationship `native.country` workclass age count sex 367 Not-in-family Taiwan Female ? 59 4 Husband Male Self-emp-inc 34 18 76 Japan 902 Unmarried Yugoslavia 25 33 Female Private 993 Wife Taiwan Female ? 58 2 547 Own-child Columbia Male State-gov 32 1

SQL for Real:

SELECT relationship, `native.country`,sex,workclass,MIN(age), COUNT(*) FROM C1 GROUP BY relationship, `native.country`,sex,workclass

Resulted in 972 records

SQL for Synthetic:

SELECT relationship, `native.country`,sex,workclass,MIN(age), COUNT(*) FROM C1_syn_06 GROUP BY relationship, `native.country`,sex,workclass

Resulted in 1010 records

Normalized Euclidean distance for (age): 22.67

Hellinger Distance: 0.416

Real

	education	`marital.status`	occupation	workclass	relationship	sex	race	`native.country`	income	`hours.per.week`	count
13782	Prof-school	Married-civ-spouse	Prof-specialty	Self-emp-not-inc	Husband	Male	White	Japan	<=50K	nan	nan
10552	HS-grad	Never-married	Adm-clerical	Private	Unmarried	Female	Black	Germany	<=50K	nan	nan
4613	Assoc-voc	Married-civ-spouse	Other-service	State-gov	Husband	Male	White	United-States	<=50K	nan	nan
13451	Masters	Separated	Prof-specialty	Local-gov	Unmarried	Female	White	Philippines	<=50K	nan	nan
11218	HS-grad	Never-married	Other-service	Private	Own-child	Female	Other	Laos	<=50K	nan	nan

Synthetic

	education	`marital.status`	occupation	workclass	relationship	sex	race	`native.country`	income	`hours.per.week`	count
13782	Prof-school	Married-civ-spouse	Prof-specialty	Self-emp-not-inc	Husband	Male	White	Japan	<=50K	40.247664	4
10552	HS-grad	Never-married	Adm-clerical	Private	Unmarried	Female	Black	Germany	<=50K	39.937826	1
4613	Assoc-voc	Married-civ-spouse	Other-service	State-gov	Husband	Male	White	United-States	<=50K	40.071404	1
13451	Masters	Separated	Prof-specialty	Local-gov	Unmarried	Female	White	Philippines	<=50K	40.031125	1
11218	HS-grad	Never-married	Other-service	Private	Own-child	Female	Other	Laos	<=50K	38.997436	1

SQL for Real

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

Resulted in 12664 records

SQL for Synthetic:

SELECT education, `marital.status`,occupation,workclass,relationship,sex,race, `native.country`,income,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY education, `marital.status`,occupation,workclass,relationship,sex,race, `native.country`,income

Resulted in 17127 records

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

Hellinger Distance: 0.549

Real

	education	`native.country`	`marital.status`	occupation	capital	count
510	11th	Puerto-Rico	Separated	Adm-clerical	nan	nan
5025	Some-college	Scotland	Divorced	Craft-repair	nan	nan
2580	Bachelors	Laos	Never-married	Handlers-cleaners	nan	nan
769	12th	United-States	Divorced	Protective-serv	0.000000	1.000000
4983	Some-college	Puerto-Rico	Married-spouse-absent	Tech-support	nan	nan

Synthetic

	education	`native.country`	`marital.status`	occupation	capital	count
510	11th	Puerto-Rico	Separated	Adm-clerical	111.299721	1
5025	Some-college	Scotland	Divorced	Craft-repair	-30.218925	3
2580	Bachelors	Laos	Never-married	Handlers-cleaners	-141.589430	2
769	12th	United-States	Divorced	Protective-serv	95.782377	1
4983	Some-college	Puerto-Rico	Married-spouse-absent	Tech-support	-105.458002	1

SQL for Real:

SELECT education, `native.country`, `marital.status`,occupation,MIN(capital), COUNT(*) FROM C1 GROUP BY education, `native.country`, `marital.status`,occupation Resulted in 3711 records

SELECT education, `native.country`, `marital.status`,occupation,MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY education, `native.country`, `marital.status`,occupation Resulted in 5207 records

Normalized Euclidean distance for (capital): 40.68

Hellinger Distance: 0.453

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	education	race	occupation	`marital.status`	`native.country`	income	workclass	sex	relationship	capital	count
8421	HS-grad	Black	Adm-clerical	Widowed	Puerto-Rico	<=50K	Local-gov	Female	Unmarried	nan	nan
14149	Some-college	Black	Adm-clerical	Divorced	Puerto-Rico	<=50K	Local-gov	Female	Unmarried	nan	nan
4695	Assoc-voc	White	Exec-managerial	Widowed	Puerto-Rico	<=50K	Private	Female	Unmarried	nan	nan
15260	Some-college	White	Craft-repair	Divorced	United-States	<=50K	Federal-gov	Male	Other-relative	nan	nan
4352	Assoc-voc	White	?	Married-civ-spouse	Puerto-Rico	>50K	?	Male	Husband	nan	nan

Synthetic

	education	race	occupation	`marital.status`	`native.country`	income	workclass	sex	relationship	capital	count
8421	HS-grad	Black	Adm-clerical	Widowed	Puerto-Rico	<=50K	Local-gov	Female	Unmarried	72.475575	1
14149	Some-college	Black	Adm-clerical	Divorced	Puerto-Rico	<=50K	Local-gov	Female	Unmarried	11.202500	1
4695	Assoc-voc	White	Exec-managerial	Widowed	Puerto-Rico	<=50K	Private	Female	Unmarried	48.941580	1
15260	Some-college	White	Craft-repair	Divorced	United-States	<=50K	Federal-gov	Male	Other-relative	7.221648	1
4352	Assoc-voc	White	?	Married-civ-spouse	Puerto-Rico	>50K	?	Male	Husband	-74.486256	1

SQL for Real:

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

Resulted in 12664 records

 $\underline{SQL\ for\ Synthetic:}\\ SELECT\ education, race, occupation, `marital.status`, `native.country`, income, workclass, sex, relationship, AVG (capital), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY$ education,race,occupation, marital.status`, native.country`,income,workclass,sex,relationship

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.549

Real

	workclass	occupation	income	sex	`native.country`	education	capital	count
4381	Private	Sales	<=50K	Male	?	1st-4th	nan	nan
2072	Private	Craft-repair	<=50K	Female	Peru	Some-college	nan	nan
2273	Private	Craft-repair	<=50K	Male	United-States	11th	79.458101	179.000000
485	Federal-gov	Armed-Forces	>50K	Male	United-States	Masters	-943.500000	2.000000
2678	Private	Exec-managerial	>50K	Male	Puerto-Rico	12th	nan	nan

Synthetic

	workclass	occupation	income	sex	`native.country`	education	capital	count
4381	Private	Sales	<=50K	Male	?	1st-4th	-250.961048	1
2072	Private	Craft-repair	<=50K	Female	Peru	Some-college	136.612062	1
2273	Private	Craft-repair	<=50K	Male	United-States	11th	10.001826	109
485	Federal-gov	Armed-Forces	>50K	Male	United-States	Masters	-33.055592	1
2678	Private	Exec-managerial	>50K	Male	Puerto-Rico	12th	-283.093856	1

SQL for Real:

SELECT workclass,occupation,income,sex, `native.country`,education,AVG(capital), COUNT(*) FROM C1 GROUP BY work class, occupation, in come, sex, `native.country`, education

Resulted in 4823 records

SQL for Synthetic:

SELECT workclass,occupation,income,sex, `native.country`,education,AVG(capital), COUNT(*) FROM C1_syn_06 GROUP BY workclass,occupation,income,sex,`native.country`,education

Resulted in 6776 records

Normalized Euclidean distance for (capital): 46.18

Hellinger Distance: 0.477

Real

sex capital count 1 Male 1225.798591 32650

0 Female 519.250803 16192

Synthetic

capital count

- 1 Male 1.410786 31728.000000
- 0 Female 1.031432 17114.000000

SQL for Real:

SELECT sex, AVG(capital), COUNT(*) FROM C1 GROUP BY sex

Resulted in 2 records

SQL for Synthetic:

SELECT sex,AVG(capital), COUNT(*) FROM C1 syn 06 GROUP BY sex

Hellinger Distance: 0.014

			Real			
	`marital.status`	relationship	workclass	occupation	capital	count
650	Never-married	Not-in-family	Federal-gov	Protective-serv	-1408.000000	7.000000
868	Never-married	Unmarried	Local-gov	Transport-moving	0.000000	4.000000
965	Separated	Not-in-family	State-gov	Adm-clerical	0.000000	4.000000
1216	Widowed	Unmarried	Self-emp-inc	Adm-clerical	nan	nan
1151	Widowed	Other-relative	Private	Adm-clerical	0.000000	7.000000
			Cronthatia			

			Synthetic			
	`marital.status`	${\bf relationship}$	workclass	occupation	capital	count
650	Never-married	Not-in-family	Federal-gov	Protective-serv	-57.837152	7
868	Never-married	Unmarried	Local-gov	Transport-moving	-186.543559	8
965	Separated	Not-in-family	State-gov	Adm-clerical	-725.135781	6
1216	Widowed	Unmarried	Self-emp-inc	Adm-clerical	14.017006	1
1151	Widowed	Other-relative	Private	Adm-clerical	-89.945092	7

SOL for Real:

SELECT `marital.status`,relationship,workclass,occupation,SUM(capital), COUNT(*) FROM C1 GROUP BY `marital.status`,relationship,workclass,occupation Resulted in 1104 records

SQL for Synthetic:

SELECT marital.status relationship,workclass,occupation,SUM(capital), COUNT(*) FROM C1_syn_06 GROUP BY marital.status relationship,workclass,occupation Resulted in 1243 records

Normalized Euclidean distance for (capital): 30.28

Hellinger Distance: 0.103

	Real										
	relationship	income	education	race	workclass	sex	`marital.status`	occupation	`hours.per.week`	count	
8349	Unmarried	<=50K	HS-grad	Black	Private	Female	Widowed	Prof-specialty	40.000000	1	
152	Husband	<=50K	1st-4th	Asian-Pac-Islander	Private	Male	Married-civ-spouse	Craft-repair	40.000000	1	
7	Husband	<=50K	10th	Black	Local-gov	Male	Married-civ-spouse	Other-service	20.000000	1	
3347	Not-in-family	<=50K	HS-grad	Black	Self-emp-not-inc	Male	Separated	Craft-repair	40.000000	1	
8442	Unmarried	<=50K	HS-grad	White	Local-gov	Female	Never-married	Adm-clerical	40.000000	1	

	Synthetic										
	relationship	income	education	race	workclass	sex	`marital.status`	occupation	`hours.per.week`	count	
8349	Unmarried	<=50K	HS-grad	Black	Private	Female	Widowed	Prof-specialty	nan	nan	
152	Husband	<=50K	1st-4th	Asian-Pac-Islander	Private	Male	Married-civ-spouse	Craft-repair	40.033022	1.000000	
7	Husband	<=50K	10th	Black	Local-gov	Male	Married-civ-spouse	Other-service	39.949063	1.000000	
3347	Not-in-family	<=50K	HS-grad	Black	Self-emp-not-inc	Male	Separated	Craft-repair	nan	nan	
8442	Unmarried	<=50K	HS-grad	White	Local-gov	Female	Never-married	Adm-clerical	40.010705	2.000000	

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

Resulted in 9897 records

SQL for Synthetic:

SELECT relationship,income,education,race,workclass,sex,`marital.status`,occupation,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY relationship,income,education,race,workclass,sex, `marital.status`,occupation

Normalized Euclidean distance for (`hours.per.week`): 69.99

Hellinger Distance: 0.328

		Real			
sex	`marital.status` income wor	rkclass race	relationship	age	COL

							-	9	
89	98	Male	Never-married	<=50K	Federal-gov	Asian-Pac-Islander	Unmarried	34.000000	1
80	07	Male	Married-civ-spouse	>50K	State-gov	White	Husband	46.081395	344
4	0	Female	Divorced	<=50K	Private	Amer-Indian-Eskimo	Other-relative	56.000000	1
9	71	Male	Never-married	<=50K	State-gov	Asian-Pac-Islander	Other-relative	31.000000	1
88	B 7	Male	Never-married	<=50K	?	Other	Own-child	20.500000	4

Synthetic

	sex	`marital.status`	income	workclass	race	relationship	age	count
898	Male	Never-married	<=50K	Federal-gov	Asian-Pac-Islander	Unmarried	nan	nan
807	' Male	Married-civ-spouse	>50K	State-gov	White	Husband	45.834437	151.000000
40	Female	Divorced	<=50K	Private	Amer-Indian-Eskimo	Other-relative	45.000000	2.000000
971	Male	Never-married	<=50K	State-gov	Asian-Pac-Islander	Other-relative	nan	nan
887	Male	Never-married	<=50K	?	Other	Own-child	18.714286	7.000000

SQL for Real:

Resulted in 1142 records

SQL for Synthetic:

SELECT sex, `marital.status`,income,workclass,race,relationship,AVG(age), COUNT(*) FROM C1_syn_06 GROUP BY sex, `marital.status`,income,workclass,race,relationship Resulted in 999 records

Normalized Euclidean distance for (age): 27.98

Hellinger Distance: 0.181

	Real						
	occupation	education	`native.country`	fnlwgt	count		
1720	Prof-specialty	HS-grad	Taiwan	nan	nan		
1496	Other-service	Some-college	Columbia	257869.000000	1.000000		
5	?	10th	Iran	nan	nan		
2075	Sales	Preschool	Puerto-Rico	nan	nan		
1823	Protective-serv	Assoc-acdm	Puerto-Rico	nan	nan		

Synthetic

	occupation	education	`native.country`	fnlwgt	count
1720	Prof-specialty	HS-grad	Taiwan	359651.354188	2
1496	Other-service	Some-college	Columbia	4259580.367692	24
5	?	10th	Iran	179771.063801	1
2075	Sales	Preschool	Puerto-Rico	176680.097191	1
1823	Protective-serv	Assoc-acdm	Puerto-Rico	1893668.561376	11

SQL for Real:

SELECT occupation, education, `native.country`, SUM(fnlwgt), COUNT(*) FROM C1 GROUP BY occupation, education, `native.country` Resulted in 2029 records

SQL for Synthetic:

SELECT occupation, education, `native.country`, SUM(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY occupation, education, `native.country`

Resulted in 2377 records

Normalized Euclidean distance for (fnlwgt): 32.57

Hellinger Distance: 0.424

			Rea	al		
	sex	`native.country`	occupation	`marital.status`	capital	
1248	Male	Fcuador	Prof-specialty	Divorced	nan	

1248 Male	Ecuador	Prof-specialty	Divorced	nan	nan
778 Female	Puerto-Rico	Machine-op-inspct	Divorced	0.000000	3.000000
931 Female	United-States	Adm-clerical	Widowed	-2258.000000	227.000000
1851 Male	Scotland	Machine-op-inspct	Married-civ-spouse	nan	nan
1394 Male	Hungary	Other-service	Married-spouse-absent	nan	nan

Synthetic

	sex	native.country	occupation	marital.status	capital	count
1248	Male	Ecuador	Prof-specialty	Divorced	-114.543331	1
778	Female	Puerto-Rico	Machine-op-inspct	Divorced	-183.073351	64
931	Female	United-States	Adm-clerical	Widowed	-298.242104	138
1851	Male	Scotland	Machine-op-inspct	Married-civ-spouse	-228.803624	12
1394	Male	Hungary	Other-service	Married-spouse-absent	40.472341	1

SQL for Real:

SELECT sex, 'native.country', occupation, 'marital.status', MIN(capital), COUNT(*) FROM C1 GROUP BY sex, 'native.country', occupation, 'marital.status'

Resulted in 1804 records SQL for Synthetic:

SELECT sex, `native.country`,occupation, `marital.status`,MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY sex, `native.country`,occupation, `marital.status` Resulted in 2042 records

count

Normalized Euclidean distance for (capital): 30.3

Hellinger Distance: 0.43

				Real					
sex	relationship	workclass	`marital.status`	`native.country`	education	income	race	fnlwgt	count
2104 Femal	e Own-child	Private	Divorced	United-States	Some-college	<=50K	Asian-Pac-Islander	nan	nan
1562 Femal	e Other-relative	Private	Divorced	Hungary	10th	<=50K	White	nan	nan
1076 Femal	e Not-in-family	Private	Separated	Puerto-Rico	HS-grad	<=50K	Black	nan	nan
3838 Femal	e Wife	?	Married-civ-spouse	Japan	Bachelors	<=50K	White	nan	nan
1082 Femal	e Not-in-family	Private	Separated	Scotland	Some-college	<=50K	White	nan	nan

				Synthetic						
sex	${\bf relationship}$	workclass	`marital.status`	`native.country`	education	income	race	fnlwgt	count	
2104 Female	Own-child	Private	Divorced	United-States	Some-college	<=50K	Asian-Pac-Islander	181845.758125	1	
1562 Female	Other-relative	Private	Divorced	Hungary	10th	<=50K	White	180279.956458	1	
1076 Female	Not-in-family	Private	Separated	Puerto-Rico	HS-grad	<=50K	Black	168201.696355	1	
3838 Female	Wife	?	Married-civ-spouse	Japan	Bachelors	<=50K	White	177919.026737	1	
1082 Female	Not-in-family	Privato	Separated	Scotland	Some-college	<=50K	White	360001 762668	2	

SQL for Real:

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

Resulted in 6863 records

SQL for Synthetic:

SELECT sex, relationship, workclass, `marital.status`, `native.country`, education, income, race, SUM(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY sex, relationship, workclass, `marital.status`, `native.country`, education, income, race

Resulted in 9165 records

Normalized Euclidean distance for (fnlwgt): 50.11

Hellinger Distance: 0.502

	Real						
	race	workclass	occupation	`hours.per.week`	count		
184	Black	State-gov	Transport-moving	40.555556	9		
86	Asian-Pac-Islander	Private	Tech-support	40.244898	49		
235	White	?	Other-service	32.500000	2		
309	White	State-gov	Sales	37.866667	15		
79	Asian-Pac-Islander	Private	Handlers-cleaners	38.617647	34		

Synthetic

	race	workclass	occupation	`hours.per.week`	count
184	Black	State-gov	Transport-moving	40.010211	13.000000
86	Asian-Pac-Islander	Private	Tech-support	40.007045	33.000000
235	White	?	Other-service	39.008094	2.000000
309	White	State-gov	Sales	40.012559	16.000000
79	Asian-Pac-Islander	Private	Handlers-cleaners	39.964624	17.000000

SQL for Real:

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

Resulted in 312 records

SQL for Synthetic:

SELECT race,workclass,occupation,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY race,workclass,occupation

Resulted in 312 records

Normalized Euclidean distance for (`hours.per.week`): 16.61

Hellinger Distance: 0.066

1001								
	income	education	sex	`marital.status`	`native.country`	fnlwgt	count	
2223	>50K	Prof-school	Female	Married-spouse-absent	Cuba	nan	nan	
87	<=50K	10th	Male	Married-civ-spouse	United-States	23275.000000	365.000000	
2163	>50K	Masters	Female	Married-civ-spouse	Hungary	nan	nan	
827	<=50K	Assoc-voc	Female	Never-married	Dominican-Republic	nan	nan	
1268	<=50K	HS-grad	Female	Never-married	Outlying-US(Guam-USVI-etc)	254547.000000	1.000000	

Synthetic

	incom	e education	sex	`marital.status`	`native.country`	fnlwgt	count
22	223 >50K	Prof-school	Female	Married-spouse-absent	Cuba	194052.269454	1
8	37 <=50I	ζ 10th	Male	Married-civ-spouse	United-States	143784.618761	285
21	1 63 >50K	Masters	Female	Married-civ-spouse	Hungary	181143.700739	5
8	27 <=50I	Assoc-voc	Female	Never-married	Dominican-Republic	188695.481340	1
12	268 <=50I	K HS-grad	Female	Never-married	Outlying-US(Guam-USVI-etc)	200391.921720	14

SQL for Real:

 ${\bf SELECT\ income, education, sex,`marital.status',`native.country', MIN(fnlwgt),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ income, education, sex,`marital.status',`native.country'}$

Resulted in 2126 records

SQL for Synthetic:

SELECT income,education,sex, `marital.status`, `native.country`,MIN(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY income,education,sex, `marital.status`, `native.country`

Resulted in 2296 records

Normalized Euclidean distance for (fnlwgt): 31.22

Hellinger Distance: 0.447

	relationship	race	`marital.status`	occupation	fnlwgt	count
970	Unmarried	White	Married-spouse-absent	Prof-specialty	1211978	8
56	Husband	White	Married-AF-spouse	Prof-specialty	143286	2
135	Not-in-family	Asian-Pac-Islander	Married-spouse-absent	Tech-support	72887	1
725	Own-child	White	Never-married	?	129426165	679
831	Unmarried	Asian-Pac-Islander	Never-married	Transport-moving	412525	3

	Synthetic									
	relationship	race	`marital.status`	occupation	fnlwgt	count				
970	Unmarried	White	Married-spouse-absent	Prof-specialty	1610746.473370	9.000000				
56	Husband	White	Married-AF-spouse	Prof-specialty	nan	nan				
135	Not-in-family	Asian-Pac-Islander	Married-spouse-absent	Tech-support	179329.820114	1.000000				
725	Own-child	White	Never-married	?	129578054.154456	695.000000				
831	Unmarried	Asian-Pac-Islander	Never-married	Transport-moving	nan	nan				

SQL for Real:

SELECT relationship,race, 'marital.status',occupation,SUM(fnlwgt), COUNT(*) FROM C1 GROUP BY relationship,race, 'marital.status',occupation

Resulted in 1082 records

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

 $SELECT\ relationship, race, `marital.status`, occupation, SUM(fnlwgt),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, race, `marital.status`, occupation$

Resulted in 1035 records

Normalized Euclidean distance for (fnlwgt): 28.69

Hellinger Distance: 0.101

	Real									
	income	`native.country`	sex	workclass	occupation	age	count			
1844	>50K	Peru	Female	State-gov	Prof-specialty	nan	nan			
2009	>50K	United-States	Female	Private	Exec-managerial	77.000000	275.000000			
947	<=50K	Peru	Female	Local-gov	Tech-support	nan	nan			
1497	<=50K	United-States	Male	Local-gov	Sales	79.000000	8.000000			
704	<=50K	Japan	Female	?	Machine-op-inspct	nan	nan			

Synthetic

	income	`native.country`	sex	workclass	occupation	age	count
184	4 >50K	Peru	Female	State-gov	Prof-specialty	49	1
200	9 >50K	United-States	Female	Private	Exec-managerial	61	71
947	<=50K	Peru	Female	Local-gov	Tech-support	43	4
149	7 <=50K	United-States	Male	Local-gov	Sales	80	8
704	<=50K	Ianan	Female	?	Machine-on-inspct	39	1

SOL for Real:

SELECT income, `native.country`,sex,workclass,occupation,MAX(age), COUNT(*) FROM C1 GROUP BY income, `native.country`,sex,workclass,occupation Resulted in 1836 records

SQL for Synthetic:

SELECT income, `native.country`,sex,workclass,occupation,MAX(age), COUNT(*) FROM C1_syn_06 GROUP BY income, `native.country`,sex,workclass,occupation Resulted in 2107 records

Normalized Euclidean distance for (age): 30.5

Hellinger Distance: 0.443

Real

	occupation	income	workclass	relationship	education	`native.country`	fnlwgt	count
428	?	<=50K	Private	Other-relative	HS-grad	Japan	nan	nan
7393	Prof-specialty	>50K	Local-gov	Husband	Bachelors	Peru	nan	nan
8393	Sales	<=50K	Private	Own-child	Assoc-acdm	Laos	nan	nan
1306	Adm-clerical	<=50K	Self-emp-not-inc	Unmarried	11th	India	nan	nan
8903	Sales	>50K	Private	Unmarried	Bachelors	Puerto-Rico	nan	nan

Synthetic

	occupation	income	workclass	relationship	education	`native.country`	fnlwgt	count
428	?	<=50K	Private	Other-relative	HS-grad	Japan	178103.527351	1
7393	Prof-specialty	>50K	Local-gov	Husband	Bachelors	Peru	179049.476069	1
8393	Sales	<=50K	Private	Own-child	Assoc-acdm	Laos	179042.673903	1
1306	Adm-clerical	<=50K	Self-emp-not-inc	Unmarried	11th	India	184164.304297	1
8903	Sales	>50K	Private	Unmarried	Bachelors	Puerto-Rico	171038.136272	1

SQL for Real

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

Resulted in 6884 records

SOL for Synthetic:

SELECT occupation, income, workclass, relationship, education, `native.country`, SUM(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY occupation, income, workclass, relationship, education, `native.country`

Resulted in 9950 records

Normalized Euclidean distance for (fnlwgt): 53.72

Hellinger Distance: 0.498

		Real				
	race	`marital.status`	education	`hours.per.week`	count	
82	Asian-Pac-Islander	Married-civ-spouse	HS-grad	6583	156	
16	Amer-Indian-Eskimo	Married-civ-spouse	9th	235	4	
206	Black	Separated	Prof-school	80	2	
255	Other	Married-spouse-absent	Bachelors	169	3	
167	Black	Married-spouse-absent	12th	135	3	

Synthetic

	race 'marital.status'		education	`hours.per.week`	count
82	Asian-Pac-Islander	Married-civ-spouse	HS-grad	3806.926873	95.000000
16	Amer-Indian-Eskimo	Married-civ-spouse	9th	39.995613	1.000000
206	Black	Separated	Prof-school	nan	nan
255	Other	Married-spouse-absent	Bachelors	80.352453	2.000000
167	Black	Married-spouse-absent	12th	40.021365	1.000000

SQL for Real:

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

Resulted in 393 records

Resulted in 363 records

Normalized Euclidean distance for (`hours.per.week`): 18.38

Hellinger Distance: 0.07

Real

	relationship	sex	workclass	race	fnlwgt	count
186	Own-child	Male	Federal-gov	Asian-Pac-Islander	101709	1
183	Own-child	Male	?	Black	12754970	55
8	Husband	Male	Federal-gov	Black	19001687	71
5	Husband	Male	?	White	117717480	654
181	Own-child	Male	?	Amer-Indian-Eskimo	351019	5

Synthetic

	relationship	sex	workclass	race	fnlwgt	count
186	Own-child	Male	Federal-gov	Asian-Pac-Islander	163686.062096	1.000000
183	Own-child	Male	?	Black	8765408.535456	49.000000
8	Husband	Male	Federal-gov	Black	10053274.217727	52.000000
5	Husband	Male	?	White	111057068.924927	649.000000
181	Own-child	Male	?	Amer-Indian-Eskimo	166493.254547	1.000000

SQL for Real:

SELECT relationship,sex,workclass,race,SUM(fnlwgt), COUNT(*) FROM C1 GROUP BY relationship,sex,workclass,race

Resulted in 302 records

SQL for Synthetic:

 $SELECT\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, SUM (fnlwgt),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, sex, work class, race, sex, race, sex,$

Resulted in 289 records

Normalized Euclidean distance for (fnlwgt): 16.31

Hellinger Distance: 0.065

Real

race	`native.country`	workclass	education	`marital.status`	sex	relationship	age	count
3394 White	Columbia	Self-emp-not-inc	Assoc-acdm	Never-married	Female	Not-in-family	nan	nan
4491 White	Japan	Private	Bachelors	Divorced	Female	Unmarried	nan	nan
4700 White	Laos	Private	10th	Never-married	Male	Own-child	nan	nan
5827 White	Puerto-Rico	Private	7th-8th	Divorced	Female	Not-in-family	nan	nan
6368 White	Puerto-Rico	Self-emp-not-inc	Some-college	Widowed	Male	Not-in-family	nan	nan

Synthetic

race	`native.country`	workclass	education	`marital.status`	sex	relationship	age	count
$3394 \; \mathrm{White} \\$	Columbia	Self-emp-not-inc	Assoc-acdm	Never-married	Female	Not-in-family	37	1
4491 White	Japan	Private	Bachelors	Divorced	Female	Unmarried	296	7
4700 White	Laos	Private	10th	Never-married	Male	Own-child	18	1
5827 White	Puerto-Rico	Private	7th-8th	Divorced	Female	Not-in-family	329	6
6368 White	Puerto-Rico	Self-emp-not-inc	Some-college	Widowed	Male	Not-in-family	66	1

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

Resulted in 6002 records

SQL for Synthetic:

SELECT race, `native.country`, workclass, education, `marital.status`, sex, relationship, SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY race, `native.country`, workclass, education, `marital.status`, sex, relationship

Normalized Euclidean distance for (age): 48.46

Real

	occupation	`marital.status`	capital	count
4	?	Never-married	-2824	1242
70	Prof-specialty	Widowed	-2444	133
82	Sales	Never-married	-2559	1992
47]	Machine-op-inspct	Married-spouse-absent	-2339	37
94	Transport-moving	Married-spouse-absent	-1564	30

Synthetic

	occupation	`marital.status`	capital	count
4	?	Never-married	-336.248160	1268.000000
70	Prof-specialty	Widowed	-297.837201	145.000000
82	Sales	Never-married	-375.169591	2076.000000
4 7	Machine-op-inspct	Married-spouse-absent	-152.427684	29.000000
94	Transport-moving	Married-spouse-absent	-110.038084	17.000000

 $\underline{SOL\ for\ Real:}\\ SELECT\ occupation, `marital.status`, MIN(capital),\ COUNT(*)\ FROM\ C1\ GROUP\ BY\ occupation, `marital.status`$

Resulted in 98 records

 $\begin{array}{l} \underline{SOL\ for\ Synthetic:} \\ \underline{SELECT\ occupation, `marital.status`, MIN(capital),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ occupation, `marital.status`,\ COUNT(*)\ Occupation, `marital.status`,\ COUNT(*)\ Occupation, `marital.status`,\ COUNT(*)\ Occupation$

Resulted in 94 records

Normalized Euclidean distance for (capital): 9.49

Hellinger Distance: 0.035

Real

	income	education	workclass	sex	age	count
80	<=50K	9th	?	Female	38.806452	31
56	<=50K	5th-6th	Federal-gov	Male	35.000000	1
148	<=50K	Doctorate	State-gov	Female	40.600000	10
207	<=50K	Some-college	Private	Female	32.182471	2784
149	<=50K	Doctorate	State-gov	Male	43.565217	23

Synthetic

	income	education	workclass	sex	age	count
80	<=50K	9th	?	Female	39.227273	22.000000
56	<=50K	5th-6th	Federal-gov	Male	37.500000	2.000000
148	<=50K	Doctorate	State-gov	Female	44.588235	17.000000
207	<=50K	Some-college	Private	Female	32.802999	2934.000000
149	<=50K	Doctorate	State-gov	Male	50.204082	49.000000

SQL for Real:

SELECT income,education,workclass,sex,AVG(age), COUNT(*) FROM C1 GROUP BY income,education,workclass,sex

Resulted in 376 records

SQL for Synthetic:

SELECT income,education,workclass,sex,AVG(age), COUNT(*) FROM C1 syn 06 GROUP BY income,education,workclass,sex

Normalized Euclidean distance for (age): 18.57

Hellinger Distance: 0.158

				Real				
	income	`native.country`	occupation	sex	education	`marital.status`	capital	count
1127	<=50K	Ecuador	Prof-specialty	Male	Masters	Married-civ-spouse	nan	nan
4696	<=50K	Puerto-Rico	Transport-moving	Male	11th	Divorced	nan	nan
4699	<=50K	Puerto-Rico	Transport-moving	Male	11th	Separated	nan	nan
5528	3 <=50K	United-States	Craft-repair	Male	Preschool	Married-spouse-absent	nan	nan
2850	<=50K	Laos	Other-service	Female	HS-grad	Separated	nan	nan

Synthetic

	income	`native.country`	occupation	sex	education	`marital.status`	capital	count
112	7 <=50K	Ecuador	Prof-specialty	Male	Masters	Married-civ-spouse	50.855533	1
469	6 <=50K	Puerto-Rico	Transport-moving	Male	11th	Divorced	78.556717	2
469	9 <=50K	Puerto-Rico	Transport-moving	Male	11th	Separated	-48.341794	1
552	8 <=50K	United-States	Craft-repair	Male	Preschool	Married-spouse-absent	25.841469	1
285	0 <=50K	Laos	Other-service	Female	HS-grad	Separated	-34.832559	1

SQL for Real:

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

Resulted in 5370 records

SQL for Synthetic:

income, `native.country`,occupation,sex,education, `marital.status`

Resulted in 7616 records

Normalized Euclidean distance for (capital): 46.48

Hellinger Distance: 0.486

Real

	`marital.status`	occupation	sex	income	workclass	education	relation ship	`native.country`	race	capital	count
8844	Married-civ-spouse	Transport-moving	Male	>50K	Private	HS-grad	Husband	United-States	Black	5178.000000	11.000000
13980	Never-married	Sales	Female	<=50K	Local-gov	Bachelors	Own-child	United-States	Black	nan	nan
4139	Married-civ-spouse	Craft-repair	Female	<=50K	Private	12th	Wife	United-States	White	0.000000	1.000000
15732	Separated	Other-service	Female	<=50K	Private	Some-college	Own-child	United-States	Black	nan	nan
10894	Never-married	Craft-repair	Male	<=50K	Self-emp-not-inc	HS-grad	Own-child	United-States	White	0.000000	15.000000

Synthetic

	`marital.status`	occupation	sex	income	workclass	education	relationship	`native.country`	race	capital	count	
8844	Married-civ-spouse	Transport-moving	Male	>50K	Private	HS-grad	Husband	United-States	Black	140.170715	3	
13980	Never-married	Sales	Female	<=50K	Local-gov	Bachelors	Own-child	United-States	Black	148.901880	2	
4139	Married-civ-spouse	Craft-repair	Female	<=50K	Private	12th	Wife	United-States	White	137.294560	1	
15732	Separated	Other-service	Female	<=50K	Private	Some-college	Own-child	United-States	Black	7.111792	1	
10894	Never-married	Craft-repair	Male	<=50K	Self-emp-not-inc	HS-grad	Own-child	United-States	White	166.342239	18	

SQL for Real:

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

Resulted in 12664 records

 $\underline{SQL\ for\ Synthetic};\\ SELECT\ `marital.status\ `,occupation,sex,income,workclass,education,relationship, `native.country\ `,race,MAX(capital),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY$ `marital.status`,occupation,sex,income,workclass,education,relationship,`native.country`,race

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.549

Real

	education	sex	workclass	race	`hours.per.week`	\boldsymbol{count}
528	B Masters	Female	Self-emp-not-inc	Black	70.000000	1
54 3	B Masters	Male	Local-gov	Black	40.714286	21
522	2 Masters	Female	Private	Other	25.000000	2
399	Bachelors	Male	Private	White	44.401767	3283
525	Masters	Female	Self-emp-inc	Black	50.000000	1

Synthetic

	education	sex	workclass	race	`hours.per.week`	count	
528	Masters	Female	Self-emp-not-inc	Black	40.009582	2.000000	
543	Masters	Male	Local-gov	Black	39.999367	18.000000	
522	Masters	Female	Private	Other	39.999067	4.000000	
399	Bachelors	Male	Private	White	40.178717	3301.000000	
525	Masters	Female	Self-emp-inc	Black	nan	nan	

SELECT education,sex,workclass,race,AVG(`hours.per.week'), COUNT(*) FROM C1 GROUP BY education,sex,workclass,race

Resulted in 684 records

SQL for Synthetic:

SELECT education, sex, workclass, race, AVG(`hours.per.week`), COUNT(*) FROM C1 syn 06 GROUP BY education, sex, workclass, race

Resulted in 632 records

Normalized Euclidean distance for (`hours.per.week`): 23.56

Hellinger Distance: 0.083

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n	ı	α

	occupation	`marital.status`	sex	workclass	`hours.per.week`	count
437	Other-service	Separated	Female	Local-gov	45.266667	15.000000
607	Sales	Married-civ-spouse	Female	Private	35.686391	169.000000
550	Prof-specialty	Widowed	Male	State-gov	50.000000	1.000000
442	Other-service	Separated	Male	$Federal\hbox{-} gov$	40.000000	1.000000
218	Exec-managerial	Separated	Female	$Federal\hbox{-} gov$	45.000000	6.000000

Synthetic

	occupation	`marital.status`	sex	workclass	`hours.per.week`	count
437	Other-service	Separated	Female	Local-gov	40.013585	14
607	Sales	Married-civ-spouse	Female	Private	39.920200	177
550	Prof-specialty	Widowed	Male	State-gov	40.018822	1
442	Other-service	Separated	Male	Federal-gov	40.013027	1
218	Exec-managerial	Separated	Female	Federal-gov	40.015095	4

SQL for Real:

SELECT occupation, `marital.status`,sex,workclass,AVG(`hours.per.week`), COUNT(*) FROM C1 GROUP BY occupation, `marital.status`,sex,workclass Resulted in 710 records

SQL for Synthetic:

SELECT occupation, `marital.status`, sex, workclass, AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY occupation, `marital.status`, sex, workclass Resulted in 746 records

Normalized Euclidean distance for ('hours.per.week'): 24.82

Hellinger Distance: 0.081

	income	`marital.status`	occupation	`native.country`	education	relationship	capital	count
2013	3 <=50K	Married-civ-spouse	Craft-repair	China	10th	Husband	0.000000	1.000000
5399	•=50K	Never-married	Machine-op-inspct	Columbia	11th	Not-in-family	nan	nan
205	<=50K	Divorced	Adm-clerical	Peru	Bachelors	Not-in-family	nan	nan
271	<=50K	Divorced	Adm-clerical	United-States	Assoc-acdm	Other-relative	nan	nan
4058	3 <=50K	Married-spouse-absent	Protective-serv	United-States	Bachelors	Not-in-family	nan	nan

Synthetic

	income	`marital.status`	occupation	`native.country`	education	relationship	capital	count
2013	<=50K	Married-civ-spouse	Craft-repair	China	10th	Husband	-19.491200	1
5399	<=50K	Never-married	Machine-op-inspct	Columbia	11th	Not-in-family	52.098922	2
205	<=50K	Divorced	Adm-clerical	Peru	Bachelors	Not-in-family	71.954233	2
271	<=50K	Divorced	Adm-clerical	United-States	Assoc-acdm	Other-relative	51.273490	1
4058	<=50K	Married-spouse-absent	Protective-serv	United-States	Bachelors	Not-in-family	102.297896	2

SOI for Real

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

Resulted in 6304 records

SQL for Synthetic:

SELECT income, marital.status',occupation, 'native.country',education,relationship,MAX(capital), COUNT(*) FROM C1_syn_06 GROUP BY income, 'marital.status',occupation, 'native.country',education,relationship

Resulted in 9107 records

Normalized Euclidean distance for (capital): 50.49

Hellinger Distance: 0.494

Real

	race	workclass	relationship	`native.country`	education	sex	occupation	`hours.per.week`	count
1255	Black	Federal-gov	Wife	Columbia	Assoc-acdm	Female	Adm-clerical	nan	nan
10113	White	Private	Unmarried	Yugoslavia	Assoc-voc	Female	Other-service	nan	nan
11913	White	Self-emp-not-inc	Unmarried	Puerto-Rico	Assoc-voc	Female	Prof-specialty	nan	nan
2696	Black	Private	Unmarried	United-States	1st-4th	Female	Protective-serv	nan	nan
4083	White	Federal-gov	Husband	Puerto-Rico	Some-college	Male	Other-service	nan	nan

Synthetic

	race	workclass	relationship	`native.country`	education	sex	occupation	`hours.per.week`	count
1255	Black	Federal-gov	Wife	Columbia	Assoc-acdm	Female	Adm-clerical	39.957842	1
10113	White	Private	Unmarried	Yugoslavia	Assoc-voc	Female	Other-service	40.073071	1
11913	White	Self-emp-not-inc	Unmarried	Puerto-Rico	Assoc-voc	Female	Prof-specialty	39.981025	2
2696	Black	Private	Unmarried	United-States	1st-4th	Female	Protective-serv	39.467147	1
4083	White	Federal-gov	Husband	Puerto-Rico	Some-college	Male	Other-service	39.941364	2

SQL for Real:

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

Resulted in 8774 records

SQL for Synthetic:

SELECT race,workclass,relationship, `native.country`,education,sex,occupation,MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY race,workclass,relationship, `native.country`,education,sex,occupation

Resulted in 12748 records

Normalized Euclidean distance for (`hours.per.week`): 58.44

Hellinger Distance: 0.508

Real

	workclass	education	`marital.status`	`native.country`	`hours.per.week`	count
2597	Self-emp-not-inc	Bachelors	Never-married	Ecuador	nan	nan
2202	Self-emp-inc	10th	Never-married	Laos	nan	nan
568	Federal-gov	Some-college	Divorced	Scotland	nan	nan
79	?	1st-4th	Widowed	Puerto-Rico	nan	nan
1454	Private	Assoc-acdm	Divorced	Columbia	nan	nan

Synthetic

	workclass	education	`marital.status`	`native.country`	`hours.per.week`	count
2597	Self-emp-not-inc	Bachelors	Never-married	Ecuador	40.026718	1
2202	Self-emp-inc	10th	Never-married	Laos	39.499842	1
568	Federal-gov	Some-college	Divorced	Scotland	40.019210	1
79	?	1st-4th	Widowed	Puerto-Rico	39.990870	1
1454	Private	Assoc-acdm	Divorced	Columbia	159.899668	4

SQL for Rea

SELECT workclass, education, `marital.status`, `native.country`, SUM(`hours.per.week`), COUNT(*) FROM C1 GROUP BY workclass, education, `marital.status`, `native.country` Resulted in 2390 records

SQL for Synthetic:

SELECT workclass,education, `marital.status`, `native.country`,SUM(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY workclass,education, `marital.status`, `native.country`

Resulted in 3007 records

Normalized Euclidean distance for ('hours.per.week'): 33.6

Hellinger Distance: 0.435

	income	race	occupation	sex	education	relationship	`marital.status`	capital	count
5818	>50K	White	Adm-clerical	Male	11th	Not-in-family	Divorced	0	1
4749	<=50K	White	Protective-serv	Male	Some-college	Not-in-family	Separated	0	1
4149	<=50K	White	Other-service	Female	Assoc-voc	Own-child	Divorced	0	1
2238	<=50K	Other	Craft-repair	Male	9th	Husband	Married-civ-spouse	0	5
4619	<=50K	White	Prof-specialty	Male	HS-grad	Not-in-family	Never-married	0	20

Synthetic

	income	race	occupation	sex	education	relationship	`marital.status`	capital	count
5818	>50K	White	Adm-clerical	Male	11th	Not-in-family	Divorced	nan	nan
4749	<=50K	White	Protective-serv	Male	Some-college	Not-in-family	Separated	-134.119442	2.000000
4149	<=50K	White	Other-service	Female	Assoc-voc	Own-child	Divorced	-11.711559	3.000000
2238	<=50K	Other	Craft-repair	Male	9th	Husband	Married-civ-spouse	-153.576755	1.000000
4619	<=50K	White	Prof-specialty	Male	HS-grad	Not-in-family	Never-married	-222.831105	19.000000

SOI for Roal

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

Resulted in 6555 records

SQL for Synthetic:

SELECT income, race, occupation, sex, education, relationship, `marital.status`, MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY income, race, occupation, sex, education, relationship, `marital.status`

Resulted in $5857\ records$

Normalized Euclidean distance for (capital): 59.9

Hellinger Distance: 0.28

Real

	`native.country`	workclass	sex	`marital.status`	education	capital	count
496	Columbia	Private	Female	Divorced	Doctorate	nan	nan
1419	Ireland	Private	Male	Never-married	Some-college	nan	nan
2979	Puerto-Rico	State-gov	Male	Married-civ-spouse	11th	nan	nan
3184	Taiwan	?	Female	Married-civ-spouse	11th	nan	nan
382	China	Private	Female	Married-civ-spouse	HS-grad	0.000000	4.000000

Synthetic

	`native.country`	workclass	sex	`marital.status`	education	capital	count
496	Columbia	Private	Female	Divorced	Doctorate	-39.473291	1
1419	Ireland	Private	Male	Never-married	Some-college	-579.793352	14
2979	Puerto-Rico	State-gov	Male	Married-civ-spouse	11th	55.818821	1
3184	Taiwan	?	Female	Married-civ-spouse	11th	-29.199579	1
382	China	Private	Female	Married-civ-spouse	HS-grad	101.439479	5

SQL for Real:

SELECT `native.country`, workclass, sex, `marital.status`, education, SUM(capital), COUNT(*) FROM C1 GROUP BY `native.country`, workclass, sex, `marital.status`, education Resulted in 3135 records

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

SELECT `native.country`,workclass,sex,`marital.status`,education,SUM(capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`,workclass,sex,`marital.status`,education

Resulted in 4201 records

Normalized Euclidean distance for (capital): 38.35

Hellinger Distance: 0.445

Real relationship `marital.status fnlwgt count 33 Wife Divorced nan nan 2 Husband Married-spouse-absent nan 12 Not-in-family Widowed 171649.713278 851.000000 Wife Widowed 39 nan nan 31 Unmarried Separated 205227.029940 668.000000

Synthetic

	relationship	`marital.status`	fnlwgt	count
33	Wife	Divorced	180042.308142	6
2	Husband	Married-spouse-absent	176668.234809	8
12	Not-in-family	Widowed	170736.990033	906
39	Wife	Widowed	168514.516618	6
31	Unmarried	Separated	180388.177998	638

SQL for Real:

SELECT relationship, 'marital.status', AVG(fnlwgt), COUNT(*) FROM C1 GROUP BY relationship, 'marital.status'

Resulted in 29 records

 $\begin{array}{l} \underline{SOL\ for\ Synthetic:} \\ \underline{SELECT\ relationship, `marital.status`, AVG(fnlwgt),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, AVG(fnlwgt),\ COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ rela$

Resulted in 40 records

Normalized Euclidean distance for (fnlwgt): 5.2

Hellinger Distance: 0.044

Real

	relationship	occupation	`marital.status`	education	age	count
715	Not-in-family	Other-service	Never-married	7th-8th	359.000000	10.000000
1997	Unmarried	Farming-fishing	Never-married	11th	178.000000	5.000000
2305	Unmarried	Tech-support	Divorced	Masters	80.000000	2.000000
1074	Other-relative	Exec-managerial	Divorced	HS-grad	163.000000	3.000000
591	Not-in-family	Handlers-cleaners	Never-married	10th	444.000000	15.000000

Synthetic

	relationship	occupation	`marital.status`	education	age	count
715	Not-in-family	Other-service	Never-married	7th-8th	475	11
1997	Unmarried	Farming-fishing	Never-married	11th	58	1
2305	Unmarried	Tech-support	Divorced	Masters	105	2
1074	Other-relative	Exec-managerial	Divorced	HS-grad	222	5
591	Not-in-family	Handlers-cleaners	Never-married	10th	231	10

SQL for Real:

SELECT relationship,occupation, `marital.status`,education, SUM(age), COUNT(*) FROM C1 GROUP BY relationship,occupation, `marital.status`,education Resulted in 2469 records

SQL for Synthetic:

 $SELECT\ relationship, occupation, `marital.status`, education, SUM (age),\ COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, `marital.status`, education, COUNT (*)\ FROM\ C1_syn_06\ GROUP\ BY\ relationship, occupation, COUNT (*)\ FROM\$ Resulted in 2514 records

Normalized Euclidean distance for (age): 43.52

Hellinger Distance: 0.13

	education	relationship	`marital.status`	race	income	sex	workclass	`native.country`	occupation	age	count
178	10th	Husband	Never-married	White	<=50K	Male	Private	United-States	Machine-op-inspct	nan	nan
10931	HS-grad	Own-child	Never-married	White	<=50K	Female	Private	Laos	?	nan	nan
2173	5th-6th	Not-in-family	Married-spouse-absent	White	<=50K	Male	?	United-States	?	68.000000	1.000000
11078	HS-grad	Own-child	Never-married	White	<=50K	Male	Private	Holand-Netherlands	Sales	nan	nan
14578	Some-college	Husband	Separated	White	<=50K	Male	Private	United-States	Other-service	nan	nan

Real

Synthetic

	education	relationship	`marital.status`	race	income	sex	workclass	`native.country`	occupation	age	count	
178	10th	Husband	Never-married	White	<=50K	Male	Private	United-States	Machine-op-inspct	25.000000	1	
10931	HS-grad	Own-child	Never-married	White	<=50K	Female	Private	Laos	?	25.000000	1	
2173	5th-6th	Not-in-family	Married-spouse-absent	White	<=50K	Male	?	United-States	?	60.000000	1	
11078	HS-grad	Own-child	Never-married	White	<=50K	Male	Private	Holand-Netherlands	Sales	24.000000	1	
14578	Some-college	Husband	Separated	White	<=50K	Male	Private	United-States	Other-service	29.000000	1	

SQL for Real:

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

Resulted in 12664 records

SOL for Synthetic:

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

Normalized Euclidean distance for (age): 64.61

Real

	`native.country`	capital	count
25	Laos	-1740	23
23	Jamaica	-1887	106
0	?	-3004	857
8	El-Salvador	-2339	155
5	Cuba	-2001	138

Synthetic

	`native.country`	capital	count
25	Laos	-421.663504	977.000000
23	Jamaica	-284.403334	59.000000
0	?	-302.651051	1464.000000
8	El-Salvador	-142.212530	30.000000
5	Cuba	-138.445359	12.000000

SQL for Real:

SELECT `native.country`,MIN(capital), COUNT(*) FROM C1 GROUP BY `native.country`

Resulted in 42 records

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

SELECT `native.country`,MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`

Resulted in 41 records

Normalized Euclidean distance for (capital): 6.4

Hellinger Distance: 0.396

Real

	education	income	relationship	sex	`marital.status`	occupation	`native.country`	race	`hours.per.week`	count
12118	Some-college	<=50K	Own-child	Male	Never-married	Craft-repair	Columbia	Other	nan	nan
4964	Bachelors	<=50K	Not-in-family	Female	Widowed	Machine-op-inspct	Puerto-Rico	White	nan	nan
8733	HS-grad	<=50K	Unmarried	Female	Married-spouse-absent	Adm-clerical	Scotland	White	nan	nan
9872	Masters	<=50K	Not-in-family	Female	Never-married	Sales	Columbia	White	nan	nan
8108	HS-grad	<=50K	Own-child	Female	Never-married	Adm-clerical	Nicaragua	White	nan	nan

Synthetic

	education	income	relationship	sex	`marital.status`	occupation	`native.country`	race	`hours.per.week`	count
12118	Some-college	<=50K	Own-child	Male	Never-married	Craft-repair	Columbia	Other	39.948873	1
4964	Bachelors	<=50K	Not-in-family	Female	Widowed	Machine-op-inspct	Puerto-Rico	White	40.023509	1
8733	HS-grad	<=50K	Unmarried	Female	Married-spouse-absent	Adm-clerical	Scotland	White	39.983158	1
9872	Masters	<=50K	Not-in-family	Female	Never-married	Sales	Columbia	White	39.975824	1
8108	HS-grad	<=50K	Own-child	Female	Never-married	Adm-clerical	Nicaragua	White	40.013398	4

SQL for Real

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

Resulted in 9390 records

SQL for Synthetic:

SELECT education, income, relationship, sex, `marital.status`, occupation, `native.country`, race, MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY education, income, relationship, sex, `marital.status`, occupation, `native.country`, race

Resulted in 13048 records

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

Hellinger Distance: 0.524

Real

	occupation	relationship	income	`native.country`	race	education	sex	workclass	`marital.status`	age	count
10965	Other-service	Unmarried	<=50K	United-States	White	HS-grad	Male	Private	Never-married	237.000000	8.000000
486	?	Other-relative	<=50K	Puerto-Rico	White	HS-grad	Female	?	Married-civ-spouse	nan	nan
12914	Prof-specialty	Own-child	>50K	Puerto-Rico	White	HS-grad	Female	State-gov	Never-married	nan	nan
592	?	Own-child	<=50K	Puerto-Rico	Black	Assoc-voc	Female	?	Married-civ-spouse	nan	nan
11868	Prof-specialty	Not-in-family	<=50K	?	White	Masters	Female	Private	Never-married	52.000000	1.000000

Synthetic

	occupation	relationship	income	`native.country`	race	education	sex	workclass	`marital.status`	age o	count
10965	Other-service	Unmarried	<=50K	United-States	White	HS-grad	Male	Private	Never-married	240	9
486	?	Other-relative	<=50K	Puerto-Rico	White	HS-grad	Female	?	Married-civ-spouse	37	1
12914	Prof-specialty	Own-child	>50K	Puerto-Rico	White	HS-grad	Female	State-gov	Never-married	33	1
592	?	Own-child	<=50K	Puerto-Rico	Black	Assoc-voc	Female	?	Married-civ-spouse	33	1
11868	Prof-specialty	Not-in-family	<=50K	?	White	Masters	Female	Private	Never-married	56	2

SQL for Real:

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

SQL for Synthetic:

SELECT occupation, relationship, income, `native.country`, race, education, sex, workclass, `marital.status`, SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY occupation, relationship, income, `native.country`, race, education, sex, workclass, `marital.status`

Resulted in 17127 records

Normalized Euclidean distance for (age): 64.61

Hellinger Distance: 0.549

Real

relationship race income fnlwgt count

44 Unmarried Black <=50K 25505 1110

28 Other-relative White <=50K 22422 1037

25 Other-relative Black >50K 160187 1

39 Own-child White >50K 29974 96

B Husband White <=50K 20534 9751

Synthetic

 relationship
 race
 income
 fnlwgt
 count

 44
 Unmarried
 Black
 <=50K</td>
 136969.871495
 961.000000

 28
 Other-relative
 White
 <=50K</td>
 147201.339012
 1019.00000

 25
 Other-relative
 Black
 >50K
 175494.849403
 2.000000

 39
 Own-child
 White
 >50K
 161984.555451
 52.000000

Husband White <=50K 117358.774335 14497.000000

SQL for Real:

8

SELECT relationship,race,income,MIN(fnlwgt), COUNT(*) FROM C1 GROUP BY relationship,race,income

Resulted in 60 records

SQL for Synthetic:

SELECT relationship,race,income,MIN(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY relationship,race,income

Resulted in 53 records

Normalized Euclidean distance for (fnlwgt): 7.28

Hellinger Distance: 0.155

Real

	sex	relationship	income	occupation	workclass	`native.country`	апе	count
2200		-		•		5	•	
2300	Male	Husband	<=50K	Handlers-cleaners	Local-gov	Puerto-Rico	nan	nan
2049	Male	Husband	<=50K	Adm-clerical	Federal-gov	Taiwan	nan	nan
1893 l	Female	Wife	>50K	Adm-clerical	Self-emp-inc	Puerto-Rico	nan	nan
3584	Male	Not-in-family	>50K	Prof-specialty	Self-emp-not-inc	Laos	nan	nan
1544 l	Female	Unmarried	>50K	Exec-managerial	Private	Peru	nan	nan

Synthetic

	sex	relationship	income	occupation	workclass	`native.country`	age	count
2300	Male	Husband	<=50K	Handlers-cleaners	Local-gov	Puerto-Rico	271	5
2049	Male	Husband	<=50K	Adm-clerical	Federal-gov	Taiwan	128	2
1893	Female	Wife	>50K	Adm-clerical	Self-emp-inc	Puerto-Rico	100	2
3584	Male	Not-in-family	>50K	Prof-specialty	Self-emp-not-inc	Laos	34	1
1544	Female	Unmarried	>50K	Exec-managerial	Private	Peru	48	1

SQL for Real:

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

Resulted in 3365 records

SQL for Synthetic:

SELECT sex, relationship, income, occupation, workclass, `native.country`, SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY sex, relationship, income, occupation, workclass, `native.country`

Resulted in 4432 records

Normalized Euclidean distance for (age): 39.67

Hellinger Distance: 0.464

F	₹	e	a]

	workclass	occupation	sex	`marital.status`	`hours.per.week`	count
694	State-gov	Other-service	Female	Married-spouse-absent	135.000000	4.000000
471	Self-emp-inc	Farming-fishing	Female	Never-married	53.000000	2.000000
556	Self-emp-not-inc	Exec-managerial	Male	Married-spouse-absent	335.000000	6.000000
548	Self-emp-not-inc	Exec-managerial	Female	Divorced	1653.000000	34.000000
145	Federal-gov	Tech-support	Female	Separated	30.000000	1.000000

Synthetic

	workclass	occupation	sex	`marital.status`	`hours.per.week`	count
694	State-gov	Other-service	Female	Married-spouse-absent	79.941899	2
471	Self-emp-inc	$Farming\hbox{-}fishing$	Female	Never-married	79.038790	2
556	Self-emp-not-inc	Exec-managerial	Male	Married-spouse-absent	359.585812	9
548	Self-emp-not-inc	Exec-managerial	Female	Divorced	1119.894065	28
145	Federal-gov	Tech-support	Female	Separated	39.980712	1

SQL for Real:

SELECT workclass,occupation,sex, `marital.status`,SUM(`hours.per.week`), COUNT(*) FROM C1 GROUP BY workclass,occupation,sex, `marital.status` Resulted in 710 records

SOL for Synthetic: SELECT workclass,occupation,sex, 'marital.status',SUM('hours.per.week'), COUNT(*) FROM C1_syn_06 GROUP BY workclass,occupation,sex, 'marital.status' Resulted in 746 records

Normalized Euclidean distance for (`hours.per.week`): 24.82

Hellinger Distance: 0.081

	Real											
	income	workclass	race	education	`marital.status`	sex	age	count				
119	<=50K	?	Black	HS-grad	Never-married	Male	17	26				
1333	<=50K	Self-emp-inc	Asian-Pac-Islander	Bachelors	Married-civ-spouse	Female	45	4				
2110	>50K	Local-gov	White	9th	Widowed	Male	49	1				
2550	>50K	Self-emp-not-inc	White	Assoc-acdm	Married-civ-spouse	Female	25	6				
2250	>50K	Private	Black	Bachelors	Divorced	Male	32	5				
				Synthetic								
	income	workclass	race	education	`marital.status`	sex	a	ge				

	income	workclass	race	${\bf education}$	`marital.status`	sex	age	count
119	<=50K	?	Black	HS-grad	Never-married	Male	18.000000	26.000000
1333	<=50K	Self-emp-inc	Asian-Pac-Islander	Bachelors	Married-civ-spouse	Female	41.000000	1.000000
2110	>50K	Local-gov	White	9th	Widowed	Male	nan	nan
2550	>50K	Self-emp-not-inc	White	Assoc-acdm	Married-civ-spouse	Female	nan	nan
2250	>50K	Private	Black	Bachelors	Divorced	Male	nan	nan

SOL for Real:

SELECT income,workclass,race,education, `marital.status`,sex,MIN(age), COUNT(*) FROM C1 GROUP BY income,workclass,race,education, `marital.status`,sex Resulted in 2701 records

SQL for Synthetic:

SELECT income, workclass, race, education, `marital.status`, sex, MIN(age), COUNT(*) FROM C1_syn_06 GROUP BY income, workclass, race, education, `marital.status`, sex Resulted in 2264 records

Normalized Euclidean distance for (age): 41.5

Hellinger Distance: 0.219

	Real											
	income	relationship	occupation	`marital.status`	sex	`native.country`	education	workclass	race	fnlwgt	count	
1759	<=50K	Husband	Other-service	Married-civ-spouse	Male	Columbia	Masters	Private	White	nan	nan	
15255	<=50K	Wife	Sales	Married-civ-spouse	Female	?	HS-grad	State-gov	White	nan	nan	
10336	<=50K	Own-child	Machine-op-inspct	Married-civ-spouse	Female	China	10th	Private	White	nan	nan	
11788	<=50K	Unmarried	?	Never-married	Female	United-States	Some-college	?	White 370	0057.000000	12.000000	
12090	<=50K	Unmarried	Adm-clerical	Never-married	Female	Germany	Assoc-voc	Private	Black	nan	nan	

	Synthetic										
	income	relationship	occupation	`marital.status`	sex	`native.country`	education	workclass	race	fnlwgt	count
1759	<=50K	Husband	Other-service	Married-civ-spouse	Male	Columbia	Masters	Private	White	184010.610364	1
15255	<=50K	Wife	Sales	Married-civ-spouse	Female	?	HS-grad	State-gov	White	169137.093989	1
10336	<=50K	Own-child	Machine-op-inspct	Married-civ-spouse	Female	China	10th	Private	White	178034.069999	1
11788	<=50K	Unmarried	?	Never-married	Female	United-States	Some-college	?	White	192693.181583	5
12090	<=50K	Unmarried	Adm-clerical	Never-married	Female	Germany	Assoc-voc	Private	Black	183475.154732	1

SQL for Real

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

Resulted in 12664 records

SOL for Synthetic

SELECT income, relationship, occupation, `marital.status`, sex, `native.country`, education, workclass, race, MAX(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY income, relationship, occupation, `marital.status`, sex, `native.country`, education, workclass, race

Resulted in 17127 records

Normalized Euclidean distance for (fnlwgt): 64.61

Hellinger Distance: 0.549

Real

	education	occupation	workclass	relationship	sex	race	`native.country`	`marital.status`	fnlwgt	count
3022	9th	Other-service	Private	Not-in-family	Male	White	United-States	Widowed	nan	nan
10023	HS-grad	Other-service	Private	Husband	Male	White	Guatemala	Married-civ-spouse	174154.333333	3.000000
$\boldsymbol{9784}$	HS-grad	Machine-op-inspct	Private	Own-child	Male	White	Japan	Divorced	nan	nan
6076	Bachelors	Machine-op-inspct	Private	Not-in-family	Male	White	Puerto-Rico	Never-married	nan	nan
12888	Prof-school	Prof-specialty	Private	Unmarried	Male	White	Puerto-Rico	Widowed	nan	nan

Synthetic

	education	occupation	workclass	relationship	sex	race	`native.country`	`marital.status`	fnlwgt	count
3022	9th	Other-service	Private	Not-in-family	Male	White	United-States	Widowed	173070.899168	1
10023	HS-grad	Other-service	Private	Husband	Male	White	Guatemala	Married-civ-spouse	187787.794149	2
9784	HS-grad	Machine-op-inspct	Private	Own-child	Male	White	Japan	Divorced	178440.826558	1
6076	Bachelors	Machine-op-inspct	Private	Not-in-family	Male	White	Puerto-Rico	Never-married	173346.010843	3
12888	Prof-school	Prof-specialty	Private	Unmarried	Male	White	Puerto-Rico	Widowed	177050.884328	1

SQL for Real:

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

Resulted in 11374 records

SQL for Synthetic:

SELECT education,occupation,workclass,relationship,sex,race, `native.country`, `marital.status`,AVG(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY education,occupation,workclass,relationship,sex,race, `native.country`, `marital.status`

Resulted in 15994 records

Normalized Euclidean distance for (fnlwgt): 63.12

Hellinger Distance: 0.53

Real

	`native.country`	occupation	capital	count
92	Ecuador	Other-service	0	4
254	Italy	Craft-repair	5013	19
276	Jamaica	Transport-moving	3411	5
182	Haiti	Priv-house-serv	0	1
181	Haiti	Other-service	0	26

Synthetic

	`native.country`	occupation	capital	count
92	Ecuador	Other-service	181.882532	17.000000
254	Italy	Craft-repair	94.205011	3.000000
276	Jamaica	Transport-moving	155.808246	1.000000
182	Haiti	Priv-house-serv	nan	nan
181	Haiti	Other-service	253.310695	12.000000

SQL for Real:

SELECT `native.country`,occupation,MAX(capital), COUNT(*) FROM C1 GROUP BY `native.country`,occupation

Resulted in 481 records

SQL for Synthetic:

SELECT `native.country`,occupation,MAX(capital), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`,occupation

Resulted in 453 records

Normalized Euclidean distance for (capital): 19.34

Hellinger Distance: 0.396

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				Real				
	`native.country`	sex	relationship	occupation	income	race	age (count
1400	Ireland	Female	Unmarried	Adm-clerical	<=50K	Asian-Pac-Islander	nan	nan
3020	Scotland	Male	Other-relative	Protective-serv	<=50K	Black	nan	nan
2571	Puerto-Rico	Female	Unmarried	Sales	<=50K	White	nan	nan
1003 H	Holand-Netherlands	Female	Wife	Other-service	<=50K	White	nan	nan
1208	Hungary	Male	Not-in-family	Tech-support	<=50K	Amer-Indian-Eskimo	nan	nan

Synthetic

				-)				
	`native.country`	sex	relationship	occupation	income	race	age	count
14	00 Ireland	Female	Unmarried	Adm-clerical	<=50K	Asian-Pac-Islander	30.000000	1
30	20 Scotland	Male	Other-relative	Protective-serv	<=50K	Black	35.000000	1
25	71 Puerto-Rico	Female	Unmarried	Sales	<=50K	White	48.147727	88
10	03 Holand-Netherlands	Female	Wife	Other-service	<=50K	White	22.000000	1
12	08 Hungary	Male	Not-in-family	Tech-support	<=50K	Amer-Indian-Eskimo	28.000000	1

SQL for Real:

SELECT `native.country`,sex,relationship,occupation,income,race,AVG(age), COUNT(*) FROM C1 GROUP BY `native.country`,sex,relationship,occupation,income,race Resulted in 3074 records

SQL for Synthetic:

SELECT `native.country`,sex,relationship,occupation,income,race,AVG(age), COUNT(*) FROM C1_syn_06 GROUP BY `native.country`,sex,relationship,occupation,income,race

Resulted in 3933 records

Normalized Euclidean distance for (age): 36.52

Real

	relationship	workclass	income	capital	count
69	Wife	?	<=50K	243.401460	137
23	Not-in-family	Self-emp-inc	>50K	11489.428571	70
78	Wife	Self-emp-inc	>50K	4997.476190	42
5 7	Unmarried	Federal-gov	<=50K	195.575758	165
32	Other-relative	Local-gov	<=50K	43.983051	59

Synthetic

	relationship	workclass	income	capital	count
69	Wife	?	<=50K	-0.718376	192.000000
23	Not-in-family	Self-emp-inc	>50K	-30.914745	16.000000
78	Wife	Self-emp-inc	>50K	-11.088924	26.000000
5 7	Unmarried	Federal-gov	<=50K	9.186298	167.000000
32	Other-relative	Local-gov	<=50K	-1.752501	86.000000

SQL for Real:

SELECT relationship, workclass, income, AVG(capital), COUNT(*) FROM C1 GROUP BY relationship, workclass, income

Resulted in 83 records

Resulted in 81 records

Normalized Euclidean distance for (capital): 8.94

Hellinger Distance: 0.15

Real

	workclass	race	`native.country`	occupation	relationship	`marital.status`	education	sex	`hours.per.week`	count
3528	Private	Asian-Pac-Islander	Cambodia	Craft-repair	Husband	Married-civ-spouse	HS-grad	Male	nan	nan
10075	Private	White	Puerto-Rico	Prof-specialty	Own-child	Never-married	Some-college	Male	nan	nan
6227	Private	White	Canada	Exec-managerial	Not-in-family	Never-married	Bachelors	Female	35.000000	1.000000
1217	Federal-gov	White	?	Tech-support	Husband	Married-civ-spouse	Some-college	Male	nan	nan
12323	Private	White	United-States	Sales	Not-in-family	Never-married	12th	Male	40.000000	3.000000
Synthetic										

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	workclass	race	`native.country`	occupation	relationship	`marital.status`	education	sex	`hours.per.week`	count
3528	Private	Asian-Pac-Islander	Cambodia	Craft-repair	Husband	Married-civ-spouse	HS-grad	Male	39.952220	1
10075	Private	White	Puerto-Rico	Prof-specialty	Own-child	Never-married	Some-college	Male	38.939758	1
6227	Private	White	Canada	Exec-managerial	Not-in-family	Never-married	Bachelors	Female	40.028406	1
1217	Federal-gov	White	?	Tech-support	Husband	Married-civ-spouse	Some-college	Male	39.994577	1
12323	Private	White	United-States	Sales	Not-in-family	Never-married	12th	Male	39.982654	2

SELECT workclass,race, `native.country`,occupation,relationship, `marital.status`,education,sex,MIN(`hours.per.week`), COUNT(*) FROM C1 GROUP BY work class, race, `native.country`, occupation, relationship, `marital.status`, education, sex and the country', occupation and th

Resulted in 11374 records

SQL for Synthetic:

SELECT workclass,race, `native.country`,occupation,relationship, `marital.status`,education,sex,MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY work class, race, `native.country`, occupation, relationship, `marital.status`, education, sex and the country', occupation and th

Resulted in 15994 records

Normalized Euclidean distance for (`hours.per.week`): 63.12

Hellinger Distance: 0.53

	Real										
	workclass	`native.country`	`marital.status`	income	occupation	sex	race	relationship	fnlwgt	count	
2697	Private	Columbia	Married-spouse-absent	<=50K	Transport-moving	Male	White	Not-in-family	nan	nan	
3934	Private	Japan	Married-civ-spouse	>50K	Sales	Male	White	Husband	344060.000000	1.000000	
5969	Private	United-States	Married-civ-spouse	<=50K	Adm-clerical	Female	White	Not-in-family	nan	nan	
8077	Self-emp-not-inc	United-States	Never-married	<=50K	Exec-managerial	Male	Asian-Pac-Islander	Not-in-family	nan	nan	
2330	Private	?	Never-married	<=50K	Other-service	Male	Black	Unmarried	nan	nan	

Synthetic	

	workclass	`native.country`	`marital.status`	income	occupation	sex	race	relationship	fnlwgt	count
2697	Private	Columbia	Married-spouse-absent	<=50K	Transport-moving	Male	White	Not-in-family	177331.200667	1
3934	Private	Japan	Married-civ-spouse	>50K	Sales	Male	White	Husband	178595.185813	7
5969	Private	United-States	Married-civ-spouse	<=50K	Adm-clerical	Female	White	Not-in-family	189952.444202	2
8077	Self-emp-not-inc	United-States	Never-married	<=50K	Exec-managerial	Male	Asian-Pac-Islander	Not-in-family	171939.782574	2
2330	Private	?	Never-married	<=50K	Other-service	Male	Black	Unmarried	197820.640544	1

SOL for Real:

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

SQL for Synthetic:

 $SELECT\ workclass, `native.country`, `marital.status`, income, occupation, sex, race, relationship, MAX(fnlwgt), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ workclass, `native.country`, `marital.status`, income, occupation, sex, race, relationship$

Resulted in 8900 records

Normalized Euclidean distance for (fnlwgt): 49.69

Hellinger Distance: 0.502

|--|

	race	`hours.per.week`	count
3	Other	39.201970	406
1	Asian-Pac-Islander	39.884793	1519
4	White	40.660170	41762
0	Amer-Indian-Eskimo	40.272340	470
2	Black	38.597866	4685

Synthetic

	race	`hours.per.week`	count
3	Other	39.889785	348.000000
1	Asian-Pac-Islander	40.010223	993.000000
4	White	39.989676	43379.000000
0	Amer-Indian-Eskimo	39.977694	202.000000
2	Black	39.932661	3920.000000

SQL for Real:

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

Resulted in 5 records

SQL for Synthetic:

SELECT race,AVG(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY race

Resulted in 5 records

Normalized Euclidean distance for ('hours.per.week'): 2.24

Hellinger Distance: 0.041

Real

	relationship	race	income	capital	count
19	Not-in-family	White	>50K	6084.343832	1143
4 7	Unmarried	Other	>50K	4787.000000	1
10	Not-in-family	Amer-Indian-Eskimo	<=50K	157.043103	116
13	Not-in-family	Asian-Pac-Islander	>50K	10278.846154	39
50	Wife	Amer-Indian-Eskimo	<=50K	167.647059	17

Synthetic

	relationship	race	income	capital	count
19	Not-in-family	White	>50K	-58.976335	302.000000
4 7	Unmarried	Other	>50K	nan	nan
10	Not-in-family	Amer-Indian-Eskimo	<=50K	-3.227414	53.000000
13	Not-in-family	Asian-Pac-Islander	>50K	-56.014664	6.000000
50	Wife	Amer-Indian-Eskimo	<=50K	-25.029491	5.000000

SQL for Real:

SELECT relationship,race,income,AVG(capital), COUNT(*) FROM C1 GROUP BY relationship,race,income

Resulted in 60 records

SQL for Synthetic:

SELECT relationship,race,income,AVG(capital), COUNT(*) FROM C1 syn 06 GROUP BY relationship,race,income

Resulted in 53 records

Normalized Euclidean distance for (capital): 7.28

Hellinger Distance: 0.155

Real

	occupation	race	`native.country`	education	relationship	capital	count
2200 E	Exec-managerial	Asian-Pac-Islander	China	Bachelors	Not-in-family	0.000000	1.000000
1154	Adm-clerical	White	Laos	HS-grad	Other-relative	nan	nan
2655 E	Exec-managerial	White	Mexico	5th-6th	Not-in-family	nan	nan
1841	Craft-repair	White	Hungary	Assoc-acdm	Not-in-family	nan	nan
1934	Craft-repair	White	Laos	11th	Husband	nan	nan

Synthetic

		occupation	race	`native.country`	education	relationship	capital	count
2	200	Exec-managerial	Asian-Pac-Islander	China	Bachelors	Not-in-family	190.168225	1
1	154	Adm-clerical	White	Laos	HS-grad	Other-relative	-95.771272	2
2	655 1	Exec-managerial	White	Mexico	5th-6th	Not-in-family	70.290368	1
1	841	Craft-repair	White	Hungary	Assoc-acdm	Not-in-family	149.000556	1
1	934	Craft-repair	White	Laos	11th	Husband	-69.701742	4

SQL for Real:

SELECT occupation, race, `native.country`, education, relationship, MIN(capital), COUNT(*) FROM C1 GROUP BY occupation, race, `native.country`, education, relationship Resulted in 5342 records

SQL for Synthetic:

SELECT occupation, race, `native.country`, education, relationship, MIN(capital), COUNT(*) FROM C1_syn_06 GROUP BY occupation,race, `native.country`,education,relationship

Resulted in 7745 records

Normalized Euclidean distance for (capital): 46.44

Hellinger Distance: 0.476

R	eal

	workclass	income	`native.country`	relationship	sex	race	`hours.per.week`	count
1627	Private	>50K	United-States	Wife	Female	White	2.000000	545.000000
442	Federal-gov	>50K	United-States	Not-in-family	Female	White	20.000000	21.000000
2108	State-gov	<=50K	South	Husband	Male	Asian-Pac-Islander	nan	nan
591	Local-gov	<=50K	Peru	Own-child	Female	White	nan	nan
1432	Private	<=50K	United-States	Own-child	Male	Amer-Indian-Eskimo	18.000000	26.000000

Synthetic

	workclass	income	`native.country`	relationship	sex	race	`hours.per.week`	count
162	7 Private	>50K	United-States	Wife	Female	White	39.456781	202
442	Federal-gov	>50K	United-States	Not-in-family	Female	White	39.898707	3
210	B State-gov	<=50K	South	Husband	Male	Asian-Pac-Islander	40.022760	1
591	Local-gov	<=50K	Peru	Own-child	Female	White	39.503904	7
143	2 Private	<=50K	United-States	Own-child	Male	Amer-Indian-Eskimo	39.791863	7

 $\label{eq:sol_for_real} \underline{SOL \ for \ Real:} \\ SELECT \ work class, income, `native.country`, relationship, sex, race, MIN(`hours.per.week`), \ COUNT(*) \ FROM \ C1 \ GROUP \ BY \ Annual C1 \ GROUP \ BY \ Annual C2 \ GROUP \ BY \ Annual C3 \ GROUP \ BY \ Annual C3 \ GROUP \ BY \ Annual C4 \ GROUP \ BY \ Annual C5 \$ workclass,income, `native.country`,relationship,sex,race

Resulted in 1828 records

SQL for Synthetic:

SELECT workclass,income, `native.country`, relationship,sex,race,MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY workclass,income, `native.country`,relationship,sex,race

Resulted in 2192 records

Normalized Euclidean distance for (`hours.per.week`): 28.71

Hellinger Distance: 0.453

Real

	`marital.status`	race	occupation	fnlwgt	count
52	Divorced	White	Exec-managerial	1484705	790
79	Married-civ-spouse	Amer-Indian-Eskimo	Adm-clerical	216070	15
140	Married-civ-spouse	White	Machine-op-inspct	1033222	1257
124	Married-civ-spouse	Other	Handlers-cleaners	359397	9
209	Never-married	Amer-Indian-Eskimo	Other-service	307375	31

Synthetic

	`marital.status`	race	occupation	fnlwgt	count
52	Divorced	White	Exec-managerial	1327194.509935	791.000000
79	Married-civ-spouse	Amer-Indian-Eskimo	Adm-clerical	184349.925345	4.000000
140	Married-civ-spouse	White	Machine-op-inspct	1332313.447635	1337.000000
124	Married-civ-spouse	Other	Handlers-cleaners	196472.664844	3.000000
209	Never-married	Amer-Indian-Eskimo	Other-service	207325.882957	11.000000

SELECT `marital.status`,race,occupation,MAX(fnlwgt), COUNT(*) FROM C1 GROUP BY `marital.status`,race,occupation Resulted in 383 records

SQL for Synthetic:

SELECT marital.status`,race,occupation,MAX(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY `marital.status`,race,occupation

Resulted in 359 records

Normalized Euclidean distance for (fnlwgt): 18.25

Hellinger Distance: 0.07

Real

	`marital.status`	relationship	`native.country`	`hours.per.week`	count
248 N	farried-spouse-absent	Not-in-family	Hungary	48.000000	1.000000
354	Never-married	Other-relative	Guatemala	60.000000	15.000000
9	Divorced	Not-in-family	Cuba	60.000000	10.000000
158	Married-civ-spouse	Not-in-family	United-States	99.000000	12.000000
455	Separated	Not-in-family	Hungary	nan	nan

Synthetic

	`marital.status`	relationship	`native.country`	`hours.per.week`	count
248	Married-spouse-absent	Not-in-family	Hungary	40.360104	6
354	Never-married	Other-relative	Guatemala	40.046379	2
9	Divorced	Not-in-family	Cuba	40.275923	2
158	Married-civ-spouse	Not-in-family	United-States	40.378961	32
455	Separated	Not-in-family	Hungary	40.221201	14

SQL for Real

SELECT `marital.status`,relationship,`native.country`,MAX(`hours.per.week`), COUNT(*) FROM C1 GROUP BY `marital.status`,relationship,`native.country` Resulted in 575 records

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

SELECT marital.status, relationship, native.country, MAX(hours.per.week), COUNT(*) FROM C1_syn_06 GROUP BY marital.status, relationship, native.country Resulted in 590 records

Normalized Euclidean distance for (`hours.per.week`): 19.13

Hellinger Distance: 0.411

	Real								
	workclass	education	`native.country`	`marital.status`	occupation	race	relationship	fnlwgt	count
8929	Private	HS-grad	United-States	Married-civ-spouse	e Machine-op-inspct A	sian-Pac-Islander	Wife	nan	nan
12972	Self-emp-not-inc	Masters	Puerto-Rico	Separated	Prof-specialty	White	Not-in-family	nan	nan
10008	Private	Some-college	Columbia	Never-married	Exec-managerial	White	Not-in-family	nan	nan
4667	Private	7th-8th	United-States	Divorced	Craft-repair	White	Not-in-family	207677.000000	5.000000
8615	Private	HS-grad	Puerto-Rico	Separated	Machine-on-inspct	White	Wife	nan	nan

Synthetic

	workclass	education	`native.country`	`marital.status`	occupation	race	relationship	fnlwgt	count
8929	Private	HS-grad	United-States	Married-civ-spouse	Machine-op-inspct Asia	n-Pac-Islander	Wife	180805.597376	2
12972	Self-emp-not-inc	Masters	Puerto-Rico	Separated	Prof-specialty	White	Not-in-family	166054.722718	1
10008	Private	Some-college	Columbia	Never-married	Exec-managerial	White	Not-in-family	177892.605121	3
4667	Private	7th-8th	United-States	Divorced	Craft-repair	White	Not-in-family	183992.294561	2
8615	Private	HS-grad	Puerto-Rico	Separated	Machine-op-inspct	White	Wife	176812.630605	1

SOL for Real:

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

Resulted in 10061 records

SQL for Synthetic:

SELECT workclass, education, `native.country`, `marital.status`,occupation,race,relationship,MAX(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY workclass, education, `native.country`, `marital.status`,occupation,race,relationship

Resulted in 14266 records

Normalized Euclidean distance for (fnlwgt): 60.38

Hellinger Distance: 0.519

	occupation	workclass	`marital.status`	`native.country`	relationship	income	education	`hours.per.week`	count
11398	Sales	Private	Widowed	United-States	Other-relative	>50K	Some-college	nan	nan
3421	Craft-repair	Self-emp-not-inc	Never-married	Puerto-Rico	Unmarried	<=50K	Some-college	nan	nan
931	Adm-clerical	Local-gov	Divorced	United-States	Own-child	<=50K	Bachelors	nan	nan
6695	Machine-op-inspct	Private	Never-married	Puerto-Rico	Own-child	<=50K	12th	nan	nan
11011	Sales	Private	Married-spouse-absent	Scotland	Own-child	<=50K	Some-college	nan	nan

Synthetic

~J									
	occupation	workclass	`marital.status`	native.country	relationship	income	education	`hours.per.week`	count
11398	Sales	Private	Widowed	United-States	Other-relative	>50K	Some-college	39.471992	1
3421	Craft-repair	Self-emp-not-inc	Never-married	Puerto-Rico	Unmarried	<=50K	Some-college	39.957541	2
931	Adm-clerical	Local-gov	Divorced	United-States	Own-child	<=50K	Bachelors	40.046035	1
6695	Machine-op-inspct	Private	Never-married	Puerto-Rico	Own-child	<=50K	12th	39.554572	2
11011	Sales	Private	Married-spouse-absent	Scotland	Own-child	<=50K	Some-college	39.976375	1

SQL for Real:

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

Resulted in 9142 records

SQL for Synthetic:

 $SELECT\ occupation, workclass, `marital.status', `native.country', relationship, income, education, AVG(`hours.per.week'), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ occupation, workclass, `marital.status', `native.country', relationship, income, education$

Resulted in 12979 records

Normalized Euclidean distance for (`hours.per.week`): 59.48

Hellinger Distance: 0.518

Real $sex\ `native.country`\ age\ count$ 67 Male 24852 736 Mexico **74** Male Puerto-Rico 4131 109 62 Male Ireland 1046 28 **55** Male 1957 62 Guatemala 65 Male Japan 2388 61

Synthetic

sex	`native.country`	age	count
67 Male	Mexico	2123.000000	60.000000
74 Male	Puerto-Rico	317125.000000	6895.000000
62 Male	Ireland	7511.000000	250.000000
55 Male	Guatemala	2828.000000	84.000000
65 Male	Japan	34276.000000	806.000000

SQL for Real:

SELECT sex, native.country, SUM(age), COUNT(*) FROM C1 GROUP BY sex, native.country

Resulted in 83 records

SQL for Synthetic:

SELECT sex, `native.country`,SUM(age), COUNT(*) FROM C1_syn_06 GROUP BY sex, `native.country`

Resulted in 79 records

Normalized Euclidean distance for (age): 8.83

Hellinger Distance: 0.399

Real

		education	`native.country`	occupation	`marital.status`	sex	`hours.per.week`	count
	6131	Some-college	Japan	Adm-clerical	Never-married	Male	nan	nan
	300	10th	United-States	Handlers-cleaners	Never-married	Female	15.000000	3.000000
	6688	Some-college	United-States	Other-service	Married-civ-spouse	Male	6.000000	121.000000
	3559	Bachelors	United-States	Machine-op-inspct	Divorced	Female	38.000000	3.000000
	2148	Assoc-acdm	Scotland	Adm-clerical	Divorced	Female	nan	nan

Synthetic

	education	`native.country`	occupation	`marital.status`	sex	`hours.per.week`	count
6131	Some-college	Japan	Adm-clerical	Never-married	Male	39.948964	6
300	10th	United-States	Handlers-cleaners	Never-married	Female	38.959939	4
6688	Some-college	United-States	Other-service	Married-civ-spouse	Male	38.970183	68
3559	Bachelors	United-States	Machine-op-inspct	Divorced	Female	40.004200	3
2148	Assoc-acdm	Scotland	Adm-clerical	Divorced	Female	39.972422	2

SQL for Real:

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

Resulted in 4601 records

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

SELECT education, `native.country`,occupation, `marital.status`,sex,MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY education, `native.country`,occupation, `marital.status`,sex

Resulted in 6778 records

Normalized Euclidean distance for (`hours.per.week`): 44.4

Hellinger Distance: 0.465

			Rea	l		
	education	`native.country`	sex	occupation	age	count
2841	Prof-school	United-States	Male	Sales	46.437500	16.000000
189	11th	?	Female	Other-service	38.500000	2.000000
1097	Assoc-acdm	Hungary	Male	Machine-op-inspct	nan	nan
1563	Bachelors	Columbia	Female	Adm-clerical	36.000000	1.000000
586	1st-4th	United-States	Female	Prof-specialty	50.000000	1.000000

Synthetic

	education	`native.country`	sex	occupation	age	count
2841	Prof-school	United-States	Male	Sales	47.666667	9
189	11th	?	Female	Other-service	27.333333	3
1097	Assoc-acdm	Hungary	Male	Machine-op-inspct	28.000000	2
1563	Bachelors	Columbia	Female	Adm-clerical	46.000000	9
586	1st-4th	United-States	Female	Prof-specialty	45.000000	2

SQL for Real:

SELECT education, `native.country`, sex, occupation, AVG(age), COUNT(*) FROM C1 GROUP BY education, `native.country`, sex, occupation Resulted in 2631 records

SQL for Synthetic:

SELECT education, `native.country`, sex, occupation, AVG(age), COUNT(*) FROM C1_syn_06 GROUP BY education, `native.country`, sex, occupation Resulted in 3333 records

Normalized Euclidean distance for (age): 35.1

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	education	`marital.status`	workclass	`hours.per.week`	count
459	Masters	Separated	Self-emp-not-inc	20	5
445	Masters	Married-spouse-absent	Private	35	12
415	HS-grad	Separated	Federal-gov	35	10
522 9	Some-college	Divorced	Private	4	1116
322	Bachelors	Never-married	?	1	71

Synthetic

	education	`marital.status`	workclass	`hours.per.week`	count
45	9 Masters	Separated	Self-emp-not-inc	39.921710	2.000000
44	5 Masters	Married-spouse-absent	Private	39.861693	10.000000
41	5 HS-grad	Separated	Federal-gov	39.941094	17.000000
52	2 Some-college	Divorced	Private	38.924458	1077.000000
32	2 Bachelors	Never-married	?	38.965916	84.000000

SQL for Real:

SELECT education, `marital.status`, workclass, MIN(`hours.per.week`), COUNT(*) FROM C1 GROUP BY education, `marital.status`, workclass Resulted in 564 records

SQL for Synthetic:

SELECT education, `marital.status`, workclass, MIN(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY education, `marital.status`, workclass

Resulted in 546 records

Normalized Euclidean distance for ('hours.per.week'): 22.34

Hellinger Distance: 0.062

Real

	relationship	race	`native.country`	capital	count
312	Own-child	Black	Ecuador	nan	nan
445	Unmarried	White	Cambodia	nan	nan
434	Unmarried	Other	Guatemala	0.000000	1.000000
471	Unmarried	White	Scotland	0.000000	3.000000
344	Own-child	Other	United-States	594.000000	37.000000

Synthetic

	relationship	race	`native.country`	capital	count
312	Own-child	Black	Ecuador	-116.225800	2
445	Unmarried	White	Cambodia	-96.582046	1
434	Unmarried	Other	Guatemala	18.050398	1
471	Unmarried	White	Scotland	1056.882016	68
344	Own-child	Other	United-States	160.506452	39

SQL for Real:

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

Resulted in 455 records

SQL for Synthetic:

SELECT relationship,race, `native.country`,SUM(capital), COUNT(*) FROM C1 syn 06 GROUP BY relationship,race, `native.country`

Resulted in 549 records

Normalized Euclidean distance for (capital): 17.41

Hellinger Distance: 0.424

Real

	`marital.status`	`native.country`	occupation	income	sex	education	race	workclass	`hours.per.week`	count
3058	Married-civ-spouse	Columbia	Other-service	<=50K	Male	5th-6th	Asian-Pac-Islander	Private	nan	nan
7411	Married-civ-spouse	United-States	Sales	<=50K	Female	HS-grad	White	Self-emp-inc	220.000000	5.000000
325	Divorced	Germany	Adm-clerical	<=50K	Female	HS-grad	White	Private	40.000000	1.000000
8294	Never-married	?	Other-service	<=50K	Male	11th	White	Private	nan	nan
8726	Never-married	El-Salvador	Other-service	<=50K	Female	Some-college	Black	Local-gov	nan	nan

Synthetic

	`marital.status`	`native.country`	occupation	income	sex	education	race	workclass	`hours.per.week`	count
3058	Married-civ-spouse	Columbia	Other-service	<=50K	Male	5th-6th	Asian-Pac-Islander	Private	39.987503	1
7411	Married-civ-spouse	United-States	Sales	<=50K	Female	HS-grad	White	Self-emp-inc	119.910823	3
325	Divorced	Germany	Adm-clerical	<=50K	Female	HS-grad	White	Private	120.056801	3
8294	Never-married	?	Other-service	<=50K	Male	11th	White	Private	39.980486	1
8726	Never-married	El-Salvador	Other-service	<=50K	Female	Some-college	Black	Local-gov	39 517782	1

SQL for Real:

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

Resulted in 10025 records

SQL for Synthetic:

 $SELECT `marital.status`, `native.country`, occupation, income, sex, education, race, workclass, SUM(`hours.per.week`), COUNT(*) FROM C1_syn_06 GROUP BY C1_syn_06 G$

`marital.status`,`native.country`,occupation,income,sex,education,race,workclass Resulted in 13875 records Normalized Euclidean distance for (`hours.per.week`): 59.76 Hellinger Distance: 0.527

Real

relationship capital count Unmarried 2071654 5125 1 Not-in-family 8897722 12583 Husband 32576730 19716 5 Wife 3596143 2331 2 Other-relative 278713 1506

Synthetic

relationship capital count 4 Unmarried 13090.967138 4999.000000 1 Not-in-family 4588.873647 12433.000000 Husband 34382.349728 19353.000000 5300.366371 2479.000000 2 Other-relative -129.459622 1351.000000

SOL for Real:

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

Resulted in 6 records

SQL for Synthetic:

SELECT relationship, SUM(capital), COUNT(*) FROM C1 syn 06 GROUP BY relationship

Resulted in 6 records

Normalized Euclidean distance for (capital): 2.45

Hellinger Distance: 0.015

Real

`marital.status` fnlwgt count 3 Married-spouse-absent 1268339 628 1 Married-AF-spouse 544091 37 5 Separated 1455435 1530 0 Divorced 1484705 6633 2 Married-civ-spouse 1490400 22379

Synthetic

`marital.status` fnlwgt 3 Married-spouse-absent 1330186.525304 540.000000 Married-AF-spouse 189922.844993 8.000000 5 Separated 1431364.751352 1504.000000 0 Divorced 1410689.989914 6716.000000 Married-civ-spouse 1461813.868173 22152.000000

SQL for Real:

SELECT `marital.status`,MAX(fnlwgt), COUNT(*) FROM C1 GROUP BY `marital.status`

Resulted in 7 records

SQL for Synthetic:

SELECT `marital.status`,MAX(fnlwgt), COUNT(*) FROM C1_syn_06 GROUP BY `marital.status`

Resulted in 7 records

Normalized Euclidean distance for (fnlwgt): 2.65

Hellinger Distance: 0.013

	workclass	`marital.status`	sex	`native.country`	occupation	race	relationship	income	`hours.per.week`	count
8455	State-gov	Married-civ-spouse	Male	Japan	Protective-serv	White	Husband	<=50K	nan	nan
1550	Local-gov	Married-civ-spouse	Male	Scotland	Transport-moving	Black	Husband	<=50K	nan	nan
8315	State-gov	Divorced	Male	Puerto-Rico	Other-service	White	Not-in-family	<=50K	nan	nan
1800	Local-gov	Never-married	Female	United-States	Prof-specialty	Other	Not-in-family	<=50K	nan	nan
182	?	Married-civ-spouse	Male	United-States	?	White	Own-child	<=50K	50.000000	2.000000

Real

Synthetic

	workclass	`marital.status`	sex	`native.country`	occupation	race	relationship	income	`hours.per.week`	count
8455	State-gov	Married-civ-spouse	Male	Japan	Protective-serv	White	Husband	<=50K	39.977319	4
1550	Local-gov	Married-civ-spouse	Male	Scotland	Transport-moving	Black	Husband	<=50K	39.967369	2
8315	State-gov	Divorced	Male	Puerto-Rico	Other-service	White	Not-in-family	<=50K	39.994647	2
1800	Local-gov	Never-married	Female	United-States	Prof-specialty	Other	Not-in-family	<=50K	40.001265	1
182	?	Married-civ-spouse	Male	United-States	?	White	Own-child	<=50K	40.001625	1

Resulted in 6492 records

SQL for Synthetic:

 $SELECT\ workclass, `marital.status`, sex, `native.country`, occupation, race, relationship, income, AVG(`hours.per.week`), COUNT(*)\ FROM\ C1_syn_06\ GROUP\ BY\ workclass, `marital.status`, sex, `native.country`, occupation, race, relationship, income$

Resulted in 8900 records

Normalized Euclidean distance for (`hours.per.week`): 49.69

Hellinger Distance: 0.502

Real

	education	workclass	`native.country`	income	sex	occupation	`marital.status`	race	relationship	capital	count
16529	Some-college	Self-emp-inc	Puerto-Rico	<=50K	Male	Sales	Married-civ-spouse	White	Husband	nan	nan
12419	HS-grad	State-gov	United-States	>50K	Male	Adm-clerical	Married-civ-spouse	White	Husband	12850.000000	4.000000
6054	Bachelors	Private	Hungary	<=50K	Female	Prof-specialty	Married-civ-spouse	White	Wife	nan	nan
902	11th	Private	Germany	<=50K	Female	Other-service	Never-married	Black	Unmarried	nan	nan
11407	HS-grad	Private	United-States	<=50K	Male	Tech-support	Married-civ-spouse	Black	Husband	0.000000	1.000000

Synthetic

	education	workclass	`native.country`	income	sex	occupation	`marital.status`	race	relationship	capital	count
16529	Some-college	Self-emp-inc	Puerto-Rico	<=50K	Male	Sales	Married-civ-spouse	White	Husband	-513.119566	12
12419	HS-grad	State-gov	United-States	>50K	Male	Adm-clerical	Married-civ-spouse	White	Husband	-144.003960	2
6054	Bachelors	Private	Hungary	<=50K	Female	Prof-specialty	Married-civ-spouse	White	Wife	-0.036841	1
902	11th	Private	Germany	<=50K	Female	Other-service	Never-married	Black	Unmarried	-89.815859	1
11407	HS-grad	Private	United-States	<=50K	Male	Tech-support	Married-civ-spouse	Black	Husband	99.814549	1

SQL for Real:

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

Resulted in 12664 records

SQL for Synthetic:

SELECT education,workclass, `native.country`,income,sex,occupation, `marital.status`,race,relationship,SUM(capital), COUNT(*) FROM C1_syn_06 GROUP BY education,workclass, `native.country`,income,sex,occupation, `marital.status`,race,relationship

Resulted in 17127 records

Normalized Euclidean distance for (capital): 64.61

Hellinger Distance: 0.549

Hellinger Distance Summary: {'mean': 0.3397787082537435, 'median': 0.4262981022623715, 'stddev': 0.1895	52988846796584}
Euclidean distance Summary : {'mean': 36.377912800423125, 'median': 34.65544690232691, 'stddev': 20.929)583375805915}
