

### Create size variable

region	division	US county name	Patents	Population	size
South	East South Central	Baldwin County	8	186,717	large
South	East South Central	Calhoun County	1	117,797	medium
South	East South Central	Cullman County	4	80,536	medium
South	East South Central	DeKalb County	2	71,375	medium
South	East South Central	Elmore County	2	80,162	medium
South	East South Central	Etowah County	2	104,303	medium
South	East South Central	Houston County	3	102,369	medium
South	East South Central	Jefferson County	51	658,931	large
South	East South Central	Lauderdale County	5	92,781	medium
South	East South Central	Lee County	24	143,468	large
South	East South Central	Limestone County	27	85,369	medium
South	East South Central	Madison County	122	340,111	large
South	East South Central	Marshall County	6	94,166	medium
South	East South Central	Mobile County	13	412,577	large
South	East South Central	Montgomery County	1	232,032	large
South	East South Central	Morgan County	7	119,953	medium
South	East South Central	St. Clair County	0	84,398	medium
South	East South Central	Shelby County	29	197,936	large
South	East South Central	Talladega County	0	81,664	medium
South	East South Central	Tuscaloosa County	11	197,211	large
South	East South Central	Walker County	2	66,661	small
West	Mountain	Apache County	0	72,401	medium
West	Mountain	Cochise County	8	133,289	large
West	Mountain	Coconino County	58	134,511	large
West	Mountain	Maricopa County	1334	3,880,244	large
West	Mountain	Mohave County	8	202,351	large
West	Mountain	Navajo County	3	107,398	medium
West	Mountain	Pima County	601	989,569	large
West	Mountain	Pinal County	31	382,992	large
West	Mountain	Yavapai County	13	211,888	large
West	Mountain	Yuma County	6	200,870	large
South	West South Central	Benton County	14	227,556	large
South	West South Central	Craighead County	8	98,315	medium
South	West South Central	Faulkner County	15	116,342	medium
South	West South Central	Garland County	9	97,124	medium
South	West South Central	Jefferson County	2	76,246	medium
South	West South Central	Lonoke County	1	69,341	small
South	West South Central	Pulaski County	26	386,299	large
South	West South Central	Saline County	5	109,526	medium
South	West South Central	Sebastian County	7	127,127	large
South	West South Central	Washington County	26	207,521	large
South	West South Central	White County	1	78,167	medium
West	Pacific	Alameda County	2243	1,529,875	large
West	Pacific	Butte County	12	220,266	large
West	Pacific	Contra Costa County	745	1,066,096	large
West	Pacific	El Dorado County	103	180,938	large

### Create size variable

region	division	US county name	Patents	Population	size
West	Pacific	Fresno County	56	942,904	large
West	Pacific	Humboldt County	3	134,761	large
West	Pacific	Imperial County	0	177,057	large
West	Pacific	Kern County	70	851,710	large
West	Pacific	Kings County	2	153,765	large
West	Pacific	Lake County	7	64,323	small
West	Pacific	Los Angeles County	2844	9,889,056	large
West	Pacific	Madera County	5	152,925	large
West	Pacific	Marin County	204	255,031	large
West	Pacific	Mendocino County	8	87,553	medium
West	Pacific	Merced County	4	259,898	large
West	Pacific	Monterey County	73	421,898	large
West	Pacific	Napa County	32	138,088	large
West	Pacific	Nevada County	35	98,612	medium
West	Pacific	Orange County	2310	3,055,745	large
West	Pacific	Placer County	125	357,138	large
West	Pacific	Riverside County	219	2,239,620	large
West	Pacific	Sacramento County	143	1,436,105	large
West	Pacific	San Bernardino County	157	2,065,377	large
West	Pacific	San Diego County	3293	3,140,069	large
West	Pacific	San Francisco County	581	812,826	large
West	Pacific	San Joaquin County	62	696,214	large
West	Pacific	San Luis Obispo County	64	271,969	large
West	Pacific	San Mateo County	2695	727,209	large
West	Pacific	Santa Barbara County	274	426,878	large
West	Pacific	Santa Clara County	10221	1,809,378	large
West	Pacific	Santa Cruz County	530	264,298	large
West	Pacific	Shasta County	8	177,774	large
West	Pacific	Solano County	50	416,471	large
West	Pacific	Sonoma County	198	488,116	large
West	Pacific	Stanislaus County	43	518,522	large
West	Pacific	Sutter County	2	94,919	medium
West	Pacific	Tulare County	7	449,253	large
West	Pacific	Ventura County	535	831,771	large
West	Pacific	Yolo County	100	202,054	large
West	Pacific	Yuba County	1	72,578	medium
West	Mountain	Adams County	83	451,443	large
West	Mountain	Arapahoe County	155	584,948	large
West	Mountain	Boulder County	595	299,378	large
West	Mountain	Denver County	50	619,968	large
West	Mountain	Douglas County	130	292,167	large
West	Mountain	El Paso County	188	636,963	large
West	Mountain	Jefferson County	264	539,884	large
West	Mountain	Larimer County	289	305,525	large
West	Mountain	Mesa County	11	147,083	large
West	Mountain	Pueblo County	15	160,545	large

### Create size variable

region	division	US county name	Patents	Population	size
West	Mountain	Weld County	191	258,638	large
Northeast	New England	Fairfield County	682	925,899	large
Northeast	New England	Hartford County	419	894,705	large
Northeast	New England	Litchfield County	92	188,789	large
Northeast	New England	Middlesex County	118	166,043	large
Northeast	New England	New Haven County	421	861,113	large
Northeast	New England	New London County	84	273,502	large
Northeast	New England	Tolland County	98	152,507	large
Northeast	New England	Windham County	25	118,151	medium
South	South Atlantic	Kent County	20	164,834	large
South	South Atlantic	New Castle County	387	541,971	large
South	South Atlantic	Sussex County	12	200,330	large
South	South Atlantic	District of Columbia	97	617,996	large
South	South Atlantic	Alachua County	108	249,365	large
South	South Atlantic	Bay County	7	169,856	large
South	South Atlantic	Brevard County	287	543,566	large
South	South Atlantic	Broward County	360	1,780,172	large
South	South Atlantic	Charlotte County	16	160,511	large
South	South Atlantic	Citrus County	5	140,031	large
South	South Atlantic	Clay County	29	192,370	large
South	South Atlantic	Collier County	61	328,134	large
South	South Atlantic	Columbia County	1	67,485	small
South	South Atlantic	Duval County	44	870,709	large
South	South Atlantic	Escambia County	20	299,114	large
South	South Atlantic	Flagler County	18	97,376	medium
South	South Atlantic	Hernando County	5	173,094	large
South	South Atlantic	Highlands County	3	98,630	medium
South	South Atlantic	Hillsborough County	194	1,267,775	large
South	South Atlantic	Indian River County	15	138,894	large
South	South Atlantic	Lake County	17	301,019	large
South	South Atlantic	Lee County	37	631,330	large
South	South Atlantic	Leon County	49	277,971	large
South	South Atlantic	Manatee County	80	327,142	large
South	South Atlantic	Marion County	20	332,529	large
South	South Atlantic	Martin County	114	147,495	large
South	South Atlantic	Miami-Dade County	290	2,554,766	large
South	South Atlantic	Monroe County	19	73,873	medium
South	South Atlantic	Nassau County	6	74,195	medium
South	South Atlantic	Okaloosa County	13	183,482	large
South	South Atlantic	Orange County	131	1,169,107	large
South	South Atlantic	Osceola County	14	276,163	large
South	South Atlantic	Palm Beach County	449	1,335,187	large
South	South Atlantic	Pasco County	55	466,457	large
South	South Atlantic	Pinellas County	237	917,398	large
South	South Atlantic	Polk County	38	609,492	large
South	South Atlantic	Putnam County	3	74,041	medium

## Create size variable

region	division	US county name	Patents	Population	size
South	South Atlantic	St. Johns County	63	195,823	large
South	South Atlantic	St. Lucie County	24	280,379	large
South	South Atlantic	Santa Rosa County	20	154,104	large
South	South Atlantic	Sarasota County	53	382,213	large
South	South Atlantic	Seminole County	162	425,071	large
South	South Atlantic	Sumter County	2	97,756	medium
South	South Atlantic	Volusia County	46	494,804	large
South	South Atlantic	Barrow County	7	69,912	small
South	South Atlantic	Bartow County	4	100,421	medium
South	South Atlantic	Bibb County	10	156,433	large
South	South Atlantic	Bulloch County	1	72,881	medium
South	South Atlantic	Carroll County	14	111,159	medium
South	South Atlantic	Chatham County	19	271,544	large
South	South Atlantic	Cherokee County	52	218,286	large
South	South Atlantic	Clarke County	31	117,344	medium
South	South Atlantic	Clayton County	4	261,532	large
South	South Atlantic	Cobb County	221	697,553	large
South	South Atlantic	Columbia County	22	128,112	large
South	South Atlantic	Coweta County	23	129,629	large
South	South Atlantic	DeKalb County	307	699,893	large
South	South Atlantic	Dougherty County	0	94,788	medium
South	South Atlantic	Douglas County	28	133,355	large
South	South Atlantic	Fayette County	25	107,784	medium
South	South Atlantic	Floyd County	3	95,989	medium
South	South Atlantic	Forsyth County	78	181,840	large
South	South Atlantic	Fulton County	483	949,599	large
South	South Atlantic	Glynn County	2	80,386	medium
South	South Atlantic	Gwinnett County	353	824,941	large
South	South Atlantic	Hall County	19	183,052	large
South	South Atlantic	Henry County	12	207,360	large
South	South Atlantic	Houston County	5	143,925	large
South	South Atlantic	Liberty County	2	65,451	small
South	South Atlantic	Lowndes County	4	111,885	medium
South	South Atlantic	Muscogee County	4	194,107	large
South	South Atlantic	Newton County	6	100,814	medium
South	South Atlantic	Paulding County	4	143,542	large
South	South Atlantic	Richmond County	10	201,217	large
South	South Atlantic	Rockdale County	29	85,765	medium
South	South Atlantic	Troup County	4	67,764	small
South	South Atlantic	Walker County	4	68,848	small
South	South Atlantic	Walton County	15	84,580	medium
South	South Atlantic	Whitfield County	7	103,184	medium
West	Pacific	Hawaii County	21	186,738	large
West	Pacific	Honolulu County	63	963,607	large
West	Pacific	Kauai County	3	67,701	small
West	Pacific	Maui County	14	156,693	large

### Create size variable

region	division	US county name	Patents	Population	size
West	Mountain	Ada County	846	400,842	large
West	Mountain	Bannock County	5	83,691	medium
West	Mountain	Bonneville County	45	105,772	medium
West	Mountain	Canyon County	43	191,694	large
West	Mountain	Kootenai County	18	141,132	large
West	Mountain	Twin Falls County	6	78,005	medium
Midwest	East North Central	Adams County	3	67,159	small
Midwest	East North Central	Champaign County	134	201,685	large
Midwest	East North Central	Cook County	1239	5,217,080	large
Midwest	East North Central	DeKalb County	27	104,743	medium
Midwest	East North Central	DuPage County	479	923,222	large
Midwest	East North Central	Kane County	153	520,271	large
Midwest	East North Central	Kankakee County	11	113,698	medium
Midwest	East North Central	Kendall County	32	116,631	medium
Midwest	East North Central	Lake County	637	706,222	large
Midwest	East North Central	LaSalle County	9	113,518	medium
Midwest	East North Central	McHenry County	136	308,944	large
Midwest	East North Central	McLean County	23	170,556	large
Midwest	East North Central	Macon County	24	110,730	medium
Midwest	East North Central	Madison County	39	268,459	large
Midwest	East North Central	Peoria County	125	186,834	large
Midwest	East North Central	Rock Island County	45	147,556	large
Midwest	East North Central	St. Clair County	21	270,259	large
Midwest	East North Central	Sangamon County	25	198,844	large
Midwest	East North Central	Tazewell County	94	135,661	large
Midwest	East North Central	Vermilion County	5	81,509	medium
Midwest	East North Central	Will County	226	681,545	large
Midwest	East North Central	Williamson County	7	66,622	small
Midwest	East North Central	Winnebago County	106	293,993	large
Midwest	East North Central	Allen County	94	358,327	large
Midwest	East North Central	Bartholomew County	45	77,870	medium
Midwest	East North Central	Clark County	9	111,570	medium
Midwest	East North Central	Delaware County	10	117,660	medium
Midwest	East North Central	Elkhart County	44	198,941	large
Midwest	East North Central	Floyd County	4	74,989	medium
Midwest	East North Central	Grant County	4	69,793	small
Midwest	East North Central	Hamilton County	266	282,810	large
Midwest	East North Central	Hancock County	20	70,529	medium
Midwest	East North Central	Hendricks County	43	147,979	large
Midwest	East North Central	Howard County	33	82,800	medium
Midwest	East North Central	Johnson County	33	141,656	large
Midwest	East North Central	Kosciusko County	91	77,336	medium
Midwest	East North Central	Lake County	43	495,558	large
Midwest	East North Central	LaPorte County	2	111,374	medium
Midwest	East North Central	Madison County	17	131,235	large
Midwest	East North Central	Marion County	82	911,296	large

### Create size variable

region	division	US county name	Patents	Population	size
Midwest	East North Central	Monroe County	73	139,799	large
Midwest	East North Central	Morgan County	9	69,464	small
Midwest	East North Central	Porter County	15	165,537	large
Midwest	East North Central	St. Joseph County	81	266,700	large
Midwest	East North Central	Tippecanoe County	99	174,724	large
Midwest	East North Central	Vanderburgh County	38	180,305	large
Midwest	East North Central	Vigo County	3	108,182	medium
Midwest	East North Central	Wayne County	8	68,643	small
Midwest	West North Central	Black Hawk County	23	131,549	large
Midwest	West North Central	Dallas County	25	69,444	small
Midwest	West North Central	Dubuque County	25	94,648	medium
Midwest	West North Central	Johnson County	55	133,038	large
Midwest	West North Central	Linn County	167	213,875	large
Midwest	West North Central	Polk County	132	437,399	large
Midwest	West North Central	Pottawattamie County	6	93,518	medium
Midwest	West North Central	Scott County	34	167,095	large
Midwest	West North Central	Story County	58	89,663	medium
Midwest	West North Central	Woodbury County	8	102,509	medium
Midwest	West North Central	Butler County	6	65,817	small
Midwest	West North Central	Douglas County	25	112,211	medium
Midwest	West North Central	Johnson County	465	552,991	large
Midwest	West North Central	Leavenworth County	2	75,527	medium
Midwest	West North Central	Riley County	21	72,997	medium
Midwest	West North Central	Sedgwick County	81	501,076	large
Midwest	West North Central	Shawnee County	4	178,941	large
Midwest	West North Central	Wyandotte County	3	158,224	large
South	East South Central	Boone County	29	121,737	large
South	East South Central	Bullitt County	4	75,109	medium
South	East South Central	Campbell County	6	90,940	medium
South	East South Central	Christian County	3	73,591	medium
South	East South Central	Daviess County	5	97,234	medium
South	East South Central	Fayette County	136	301,569	large
South	East South Central	Hardin County	6	107,456	medium
South	East South Central	Jefferson County	120	746,906	large
South	East South Central	Kenton County	20	160,406	large
South	East South Central	McCracken County	4	65,864	small
South	East South Central	Madison County	14	84,188	medium
South	East South Central	Pike County	1	64,904	small
South	East South Central	Warren County	21	115,517	medium
South	West South Central	Ascension Parish	8	109,985	medium
South	West South Central	Bossier Parish	13	119,732	medium
South	West South Central	Caddo Parish	12	257,051	large
South	West South Central	Calcasieu Parish	7	194,092	large
South	West South Central	East Baton Rouge Parish	47	441,438	large
South	West South Central	Iberia Parish	6	73,400	medium
South	West South Central	Jefferson Parish	54	432,640	large



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region	division	US county name	Patents	Population	size
South	West South Central	Lafayette Parish	52	224,390	large
South	West South Central	Lafourche Parish	1	96,666	medium
South	West South Central	Livingston Parish	4	130,251	large
South	West South Central	Orleans Parish	13	360,740	large
South	West South Central	Ouachita Parish	3	154,919	large
South	West South Central	Rapides Parish	6	132,374	large
South	West South Central	St. Landry Parish	2	83,552	medium
South	West South Central	St. Tammany Parish	22	236,785	large
South	West South Central	Tangipahoa Parish	5	122,571	large
South	West South Central	Terrebonne Parish	6	111,917	medium
Northeast	New England	Androscoggin County	11	107,398	medium
Northeast	New England	Aroostook County	1	71,482	medium
Northeast	New England	Cumberland County	94	282,401	large
Northeast	New England	Kennebec County	3	121,935	large
Northeast	New England	Penobscot County	15	153,786	large
Northeast	New England	York County	35	198,199	large
South	South Atlantic	Allegany County	3	74,692	medium
South	South Atlantic	Anne Arundel County	175	544,403	large
South	South Atlantic	Baltimore County	149	809,941	large
South	South Atlantic	Calvert County	8	89,256	medium
South	South Atlantic	Carroll County	35	167,288	large
South	South Atlantic	Cecil County	40	101,694	medium
South	South Atlantic	Charles County	20	149,130	large
South	South Atlantic	Frederick County	65	236,745	large
South	South Atlantic	Harford County	64	246,489	large
South	South Atlantic	Howard County	197	293,142	large
South	South Atlantic	Montgomery County	601	989,794	large
South	South Atlantic	Prince George's County	70	871,233	large
South	South Atlantic	St. Mary's County	6	107,484	medium
South	South Atlantic	Washington County	6	148,203	large
South	South Atlantic	Wicomico County	11	99,190	medium
South	South Atlantic	Baltimore city	39	619,493	large
Northeast	New England	Barnstable County	32	215,769	large
Northeast	New England	Berkshire County	26	130,458	large
Northeast	New England	Bristol County	177	548,922	large
Northeast	New England	Essex County	414	748,930	large
Northeast	New England	Franklin County	15	71,599	medium
Northeast	New England	Hampden County	60	463,783	large
Northeast	New England	Hampshire County	45	157,822	large
Northeast	New England	Middlesex County	2712	1,518,171	large
Northeast	New England	Norfolk County	552	675,436	large
Northeast	New England	Plymouth County	112	497,579	large
Northeast	New England	Suffolk County	506	730,932	large
Northeast	New England	Worcester County	536	801,227	large
Midwest	East North Central	Allegan County	25	111,234	medium
Midwest	East North Central	Bay County	15	107,110	medium

## Create size variable

region	division	US county name	Patents	Population	size
Midwest	East North Central	Berrien County	104	156,941	large
Midwest	East North Central	Calhoun County	26	135,490	large
Midwest	East North Central	Clinton County	9	75,469	medium
Midwest	East North Central	Eaton County	7	108,056	medium
Midwest	East North Central	Genesee County	85	422,080	large
Midwest	East North Central	Grand Traverse County	9	88,349	medium
Midwest	East North Central	Ingham County	64	281,613	large
Midwest	East North Central	Isabella County	5	70,622	medium
Midwest	East North Central	Jackson County	18	159,748	large
Midwest	East North Central	Kalamazoo County	77	252,074	large
Midwest	East North Central	Kent County	178	608,453	large
Midwest	East North Central	Lapeer County	32	88,082	medium
Midwest	East North Central	Lenawee County	24	99,440	medium
Midwest	East North Central	Livingston County	124	181,722	large
Midwest	East North Central	Macomb County	233	842,145	large
Midwest	East North Central	Marquette County	12	67,694	small
Midwest	East North Central	Midland County	97	84,063	medium
Midwest	East North Central	Monroe County	46	151,560	large
Midwest	East North Central	Muskegon County	16	171,302	large
Midwest	East North Central	Oakland County	1289	1,210,145	large
Midwest	East North Central	Ottawa County	133	266,300	large
Midwest	East North Central	Saginaw County	55	199,088	large
Midwest	East North Central	St. Clair County	26	161,642	large
Midwest	East North Central	Shiawassee County	6	69,841	small
Midwest	East North Central	Van Buren County	11	76,131	medium
Midwest	East North Central	Washtenaw County	564	347,962	large
Midwest	East North Central	Wayne County	549	1,802,096	large
Midwest	West North Central	Anoka County	323	333,140	large
Midwest	West North Central	Carver County	88	92,638	medium
Midwest	West North Central	Dakota County	310	402,006	large
Midwest	West North Central	Hennepin County	1268	1,168,431	large
Midwest	West North Central	Olmsted County	450	145,769	large
Midwest	West North Central	Ramsey County	367	514,696	large
Midwest	West North Central	St. Louis County	22	200,255	large
Midwest	West North Central	Scott County	121	132,556	large
Midwest	West North Central	Sherburne County	32	89,319	medium
Midwest	West North Central	Stearns County	16	151,343	large
Midwest	West North Central	Washington County	427	241,280	large
Midwest	West North Central	Wright County	62	126,437	large
South	East South Central	DeSoto County	17	164,053	large
South	East South Central	Forrest County	6	75,842	medium
South	East South Central	Harrison County	8	191,040	large
South	East South Central	Hinds County	9	248,184	large
South	East South Central	Jackson County	1	139,901	large
South	East South Central	Jones County	1	68,075	small
South	East South Central	Lauderdale County	2	80,475	medium



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region	division	US county name	Patents	Population	size
South	East South Central	Lee County	16	84,156	medium
South	East South Central	Madison County	10	96,941	medium
South	East South Central	Rankin County	13	143,702	large
Midwest	West North Central	Boone County	38	165,627	large
Midwest	West North Central	Buchanan County	9	89,666	medium
Midwest	West North Central	Cape Girardeau County	5	76,632	medium
Midwest	West North Central	Cass County	29	100,052	medium
Midwest	West North Central	Christian County	5	78,570	medium
Midwest	West North Central	Clay County	35	225,161	large
Midwest	West North Central	Cole County	0	76,448	medium
Midwest	West North Central	Franklin County	21	101,938	medium
Midwest	West North Central	Greene County	18	277,214	large
Midwest	West North Central	Jackson County	60	676,360	large
Midwest	West North Central	Jasper County	10	118,435	medium
Midwest	West North Central	Jefferson County	18	219,480	large
Midwest	West North Central	Platte County	30	90,903	medium
Midwest	West North Central	St. Charles County	137	365,151	large
Midwest	West North Central	St. Francois County	2	65,578	small
Midwest	West North Central	St. Louis County	285	998,692	large
Midwest	West North Central	St. Louis city	77	318,069	large
West	Mountain	Cascade County	2	81,837	medium
West	Mountain	Flathead County	16	91,301	medium
West	Mountain	Gallatin County	42	91,377	medium
West	Mountain	Missoula County	5	110,138	medium
West	Mountain	Yellowstone County	5	150,069	large
Midwest	West North Central	Douglas County	42	524,861	large
Midwest	West North Central	Lancaster County	48	289,800	large
Midwest	West North Central	Sarpy County	48	162,561	large
West	Mountain	Clark County	231	1,969,975	large
West	Mountain	Washoe County	276	425,710	large
Northeast	New England	Cheshire County	18	76,918	medium
Northeast	New England	Grafton County	55	88,923	medium
Northeast	New England	Hillsborough County	327	401,696	large
Northeast	New England	Merrimack County	59	146,579	large
Northeast	New England	Rockingham County	182	296,207	large
Northeast	New England	Strafford County	60	123,857	large
Northeast	Middle Atlantic	Atlantic County	13	274,338	large
Northeast	Middle Atlantic	Bergen County	337	911,004	large
Northeast	Middle Atlantic	Burlington County	87	449,576	large
Northeast	Middle Atlantic	Camden County	70	513,241	large
Northeast	Middle Atlantic	Cape May County	4	96,601	medium
Northeast	Middle Atlantic	Cumberland County	7	157,095	large
Northeast	Middle Atlantic	Essex County	185	785,137	large
Northeast	Middle Atlantic	Gloucester County	44	289,104	large
Northeast	Middle Atlantic	Hudson County	93	641,224	large
Northeast	Middle Atlantic	Hunterdon County	171	128,038	large

### Create size variable

region	division	US county name	Patents	Population	size
Northeast	Middle Atlantic	Mercer County	383	367,063	large
Northeast	Middle Atlantic	Middlesex County	424	814,217	large
Northeast	Middle Atlantic	Monmouth County	600	631,020	large
Northeast	Middle Atlantic	Morris County	449	494,976	large
Northeast	Middle Atlantic	Ocean County	50	579,369	large
Northeast	Middle Atlantic	Passaic County	61	502,007	large
Northeast	Middle Atlantic	Salem County	12	65,902	small
Northeast	Middle Atlantic	Somerset County	466	324,893	large
Northeast	Middle Atlantic	Sussex County	44	148,517	large
Northeast	Middle Atlantic	Union County	308	539,494	large
Northeast	Middle Atlantic	Warren County	38	108,339	medium
West	Mountain	Bernalillo County	126	670,968	large
West	Mountain	Chaves County	5	65,890	small
West	Mountain	Dona Ana County	15	213,598	large
West	Mountain	Lea County	1	65,423	small
West	Mountain	McKinley County	1	73,664	medium
West	Mountain	Otero County	4	65,703	small
West	Mountain	Sandoval County	124	134,259	large
West	Mountain	San Juan County	6	128,200	large
West	Mountain	Santa Fe County	47	145,648	large
West	Mountain	Valencia County	0	77,070	medium
Northeast	Middle Atlantic	Albany County	195	303,565	large
Northeast	Middle Atlantic	Bronx County	44	1,392,002	large
Northeast	Middle Atlantic	Broome County	91	199,031	large
Northeast	Middle Atlantic	Cattaraugus County	11	79,832	medium
Northeast	Middle Atlantic	Cayuga County	17	79,738	medium
Northeast	Middle Atlantic	Chautauqua County	6	134,368	large
Northeast	Middle Atlantic	Chemung County	60	88,840	medium
Northeast	Middle Atlantic	Clinton County	3	81,945	medium
Northeast	Middle Atlantic	Dutchess County	677	297,999	large
Northeast	Middle Atlantic	Erie County	223	918,028	large
Northeast	Middle Atlantic	Jefferson County	13	117,910	medium
Northeast	Middle Atlantic	Kings County	142	2,532,645	large
Northeast	Middle Atlantic	Livingston County	24	65,070	small
Northeast	Middle Atlantic	Madison County	12	73,365	medium
Northeast	Middle Atlantic	Monroe County	1117	745,625	large
Northeast	Middle Atlantic	Nassau County	268	1,344,436	large
Northeast	Middle Atlantic	New York County	764	1,601,948	large
Northeast	Middle Atlantic	Niagara County	33	216,011	large
Northeast	Middle Atlantic	Oneida County	26	234,287	large
Northeast	Middle Atlantic	Onondaga County	169	466,960	large
Northeast	Middle Atlantic	Ontario County	57	108,525	medium
Northeast	Middle Atlantic	Orange County	79	374,872	large
Northeast	Middle Atlantic	Oswego County	7	122,228	large
Northeast	Middle Atlantic	Putnam County	84	99,933	medium
Northeast	Middle Atlantic	Queens County	101	2,247,848	large

### Create size variable

region	division	US county name	Patents	Population	size
Northeast	Middle Atlantic	Rensselaer County	30	159,395	large
Northeast	Middle Atlantic	Richmond County	51	470,467	large
Northeast	Middle Atlantic	Rockland County	93	315,158	large
Northeast	Middle Atlantic	St. Lawrence County	11	111,690	medium
Northeast	Middle Atlantic	Saratoga County	223	220,882	large
Northeast	Middle Atlantic	Schenectady County	262	155,058	large
Northeast	Middle Atlantic	Steuben County	122	99,033	medium
Northeast	Middle Atlantic	Suffolk County	438	1,498,816	large
Northeast	Middle Atlantic	Sullivan County	5	76,900	medium
Northeast	Middle Atlantic	Tompkins County	115	101,723	medium
Northeast	Middle Atlantic	Ulster County	90	182,448	large
Northeast	Middle Atlantic	Warren County	9	65,831	small
Northeast	Middle Atlantic	Wayne County	81	93,436	medium
Northeast	Middle Atlantic	Westchester County	1076	955,899	large
South	South Atlantic	Alamance County	23	153,291	large
South	South Atlantic	Brunswick County	5	110,097	medium
South	South Atlantic	Buncombe County	26	241,419	large
South	South Atlantic	Burke County	2	90,904	medium
South	South Atlantic	Cabarrus County	20	181,468	large
South	South Atlantic	Caldwell County	10	82,395	medium
South	South Atlantic	Carteret County	3	67,373	small
South	South Atlantic	Catawba County	33	154,181	large
South	South Atlantic	Cleveland County	6	97,489	medium
South	South Atlantic	Craven County	11	104,786	medium
South	South Atlantic	Cumberland County	11	324,885	large
South	South Atlantic	Davidson County	4	162,697	large
South	South Atlantic	Durham County	253	273,392	large
South	South Atlantic	Forsyth County	89	354,952	large
South	South Atlantic	Gaston County	17	207,031	large
South	South Atlantic	Guilford County	135	495,279	large
South	South Atlantic	Harnett County	2	119,256	medium
South	South Atlantic	Henderson County	14	107,927	medium
South	South Atlantic	Iredell County	27	161,202	large
South	South Atlantic	Johnston County	8	172,595	large
South	South Atlantic	Lincoln County	11	78,932	medium
South	South Atlantic	Mecklenburg County	181	944,373	large
South	South Atlantic	Moore County	8	89,352	medium
South	South Atlantic	Nash County	3	96,116	medium
South	South Atlantic	New Hanover County	40	206,189	large
South	South Atlantic	Onslow County	3	179,719	large
South	South Atlantic	Orange County	236	135,755	large
South	South Atlantic	Pitt County	26	171,134	large
South	South Atlantic	Randolph County	16	142,358	large
South	South Atlantic	Robeson County	0	135,517	large
South	South Atlantic	Rockingham County	0	93,329	medium
South	South Atlantic	Rowan County	5	138,019	large

### Create size variable

region	division	US county name	Patents	Population	size
South	South Atlantic	Rutherford County	3	67,538	small
South	South Atlantic	Surry County	10	73,714	medium
South	South Atlantic	Union County	37	205,463	large
South	South Atlantic	Wake County	1185	929,780	large
South	South Atlantic	Wayne County	5	123,697	large
South	South Atlantic	Wilkes County	2	68,984	small
South	South Atlantic	Wilson County	8	81,452	medium
Midwest	West North Central	Burleigh County	6	83,145	medium
Midwest	West North Central	Cass County	45	152,368	large
Midwest	West North Central	Grand Forks County	7	66,598	small
Midwest	East North Central	Allen County	5	106,094	medium
Midwest	East North Central	Ashtabula County	7	101,345	medium
Midwest	East North Central	Belmont County	5	70,151	medium
Midwest	East North Central	Butler County	186	369,999	large
Midwest	East North Central	Clark County	13	137,691	large
Midwest	East North Central	Clermont County	221	199,139	large
Midwest	East North Central	Columbiana County	8	107,570	medium
Midwest	East North Central	Cuyahoga County	410	1,270,294	large
Midwest	East North Central	Delaware County	120	178,341	large
Midwest	East North Central	Erie County	20	76,751	medium
Midwest	East North Central	Fairfield County	15	147,066	large
Midwest	East North Central	Franklin County	227	1,178,799	large
Midwest	East North Central	Geauga County	64	93,228	medium
Midwest	East North Central	Greene County	65	162,846	large
Midwest	East North Central	Hamilton County	213	800,362	large
Midwest	East North Central	Hancock County	25	75,056	medium
Midwest	East North Central	Jefferson County	2	68,828	small
Midwest	East North Central	Lake County	93	229,885	large
Midwest	East North Central	Licking County	30	167,248	large
Midwest	East North Central	Lorain County	73	301,614	large
Midwest	East North Central	Lucas County	73	440,005	large
Midwest	East North Central	Mahoning County	21	237,270	large
Midwest	East North Central	Marion County	3	66,212	small
Midwest	East North Central	Medina County	85	173,262	large
Midwest	East North Central	Miami County	37	102,857	medium
Midwest	East North Central	Montgomery County	81	537,602	large
Midwest	East North Central	Muskingum County	0	86,237	medium
Midwest	East North Central	Portage County	57	161,624	large
Midwest	East North Central	Richland County	10	123,510	large
Midwest	East North Central	Ross County	1	78,249	medium
Midwest	East North Central	Scioto County	0	79,277	medium
Midwest	East North Central	Stark County	164	375,087	large
Midwest	East North Central	Summit County	295	539,832	large
Midwest	East North Central	Trumbull County	22	209,264	large
Midwest	East North Central	Tuscarawas County	17	92,508	medium
Midwest	East North Central	Warren County	155	214,910	large

### Create size variable

region	division	US county name	Patents	Population	size
Midwest	East North Central	Wayne County	49	114,611	medium
Midwest	East North Central	Wood County	53	126,355	large
South	West South Central	Canadian County	8	119,492	medium
South	West South Central	Cleveland County	51	261,281	large
South	West South Central	Comanche County	3	125,815	large
South	West South Central	Creek County	34	70,467	medium
South	West South Central	Muskogee County	5	71,003	medium
South	West South Central	Oklahoma County	58	732,371	large
South	West South Central	Payne County	22	77,988	medium
South	West South Central	Pottawatomie County	1	70,280	medium
South	West South Central	Rogers County	10	87,706	medium
South	West South Central	Tulsa County	71	610,599	large
South	West South Central	Wagoner County	18	74,098	medium
West	Pacific	Benton County	202	85,928	medium
West	Pacific	Clackamas County	454	380,207	large
West	Pacific	Deschutes County	61	160,338	large
West	Pacific	Douglas County	3	107,490	medium
West	Pacific	Jackson County	13	204,822	large
West	Pacific	Josephine County	8	82,987	medium
West	Pacific	Klamath County	5	65,552	small
West	Pacific	Lane County	56	353,416	large
West	Pacific	Linn County	34	118,122	medium
West	Pacific	Marion County	23	318,872	large
West	Pacific	Multnomah County	217	748,031	large
West	Pacific	Polk County	16	75,993	medium
West	Pacific	Umatilla County	30	76,725	medium
West	Pacific	Washington County	795	540,410	large
West	Pacific	Yamhill County	21	100,000	medium
Northeast	Middle Atlantic	Adams County	7	101,434	medium
Northeast	Middle Atlantic	Allegheny County	487	1,227,066	large
Northeast	Middle Atlantic	Armstrong County	5	68,568	small
Northeast	Middle Atlantic	Beaver County	21	170,414	large
Northeast	Middle Atlantic	Berks County	56	412,778	large
Northeast	Middle Atlantic	Blair County	4	127,099	large
Northeast	Middle Atlantic	Bucks County	310	626,854	large
Northeast	Middle Atlantic	Butler County	56	184,848	large
Northeast	Middle Atlantic	Cambria County	5	143,728	large
Northeast	Middle Atlantic	Carbon County	3	65,154	small
Northeast	Middle Atlantic	Centre County	64	154,722	large
Northeast	Middle Atlantic	Chester County	320	503,897	large
Northeast	Middle Atlantic	Clearfield County	3	81,445	medium
Northeast	Middle Atlantic	Columbia County	5	67,476	small
Northeast	Middle Atlantic	Crawford County	11	88,740	medium
Northeast	Middle Atlantic	Cumberland County	48	237,892	large
Northeast	Middle Atlantic	Dauphin County	79	268,977	large
Northeast	Middle Atlantic	Delaware County	298	559,494	large



### Create size variable

region	division	US county name	Patents	Population	size
Northeast	Middle Atlantic	Erie County	77	280,985	large
Northeast	Middle Atlantic	Fayette County	5	136,097	large
Northeast	Middle Atlantic	Franklin County	7	150,811	large
Northeast	Middle Atlantic	Indiana County	5	89,298	medium
Northeast	Middle Atlantic	Lackawanna County	16	214,166	large
Northeast	Middle Atlantic	Lancaster County	119	523,594	large
Northeast	Middle Atlantic	Lawrence County	11	90,535	medium
Northeast	Middle Atlantic	Lebanon County	14	134,311	large
Northeast	Middle Atlantic	Lehigh County	180	352,947	large
Northeast	Middle Atlantic	Luzerne County	32	320,651	large
Northeast	Middle Atlantic	Lycoming County	20	116,747	medium
Northeast	Middle Atlantic	Mercer County	14	116,205	medium
Northeast	Middle Atlantic	Monroe County	14	169,882	large
Northeast	Middle Atlantic	Montgomery County	440	804,210	large
Northeast	Middle Atlantic	Northampton County	85	298,476	large
Northeast	Middle Atlantic	Northumberland County	1	94,558	medium
Northeast	Middle Atlantic	Philadelphia County	62	1,536,471	large
Northeast	Middle Atlantic	Schuylkill County	12	147,513	large
Northeast	Middle Atlantic	Somerset County	16	77,405	medium
Northeast	Middle Atlantic	Washington County	30	208,282	large
Northeast	Middle Atlantic	Westmoreland County	112	364,471	large
Northeast	Middle Atlantic	York County	112	436,770	large
Northeast	New England	Kent County	34	165,535	large
Northeast	New England	Newport County	40	82,695	medium
Northeast	New England	Providence County	97	626,709	large
Northeast	New England	Washington County	69	126,563	large
South	South Atlantic	Aiken County	17	160,682	large
South	South Atlantic	Anderson County	25	188,488	large
South	South Atlantic	Beaufort County	13	164,684	large
South	South Atlantic	Berkeley County	11	183,525	large
South	South Atlantic	Charleston County	36	357,704	large
South	South Atlantic	Darlington County	5	68,299	small
South	South Atlantic	Dorchester County	15	140,892	large
South	South Atlantic	Florence County	16	137,862	large
South	South Atlantic	Greenville County	253	461,299	large
South	South Atlantic	Greenwood County	8	69,835	small
South	South Atlantic	Horry County	16	276,340	large
South	South Atlantic	Lancaster County	9	77,908	medium
South	South Atlantic	Laurens County	3	66,528	small
South	South Atlantic	Lexington County	45	267,129	large
South	South Atlantic	Oconee County	11	74,418	medium
South	South Atlantic	Orangeburg County	1	91,910	medium
South	South Atlantic	Pickens County	26	119,574	medium
South	South Atlantic	Richland County	35	389,116	large
South	South Atlantic	Spartanburg County	53	286,868	large
South	South Atlantic	Sumter County	3	107,460	medium



### Create size variable

region	division	US county name	Patents	Population	size
South	South Atlantic	York County	28	230,528	large
Midwest	West North Central	Minnehaha County	15	171,752	large
Midwest	West North Central	Pennington County	14	102,815	medium
South	East South Central	Anderson County	23	75,233	medium
South	East South Central	Blount County	17	123,901	large
South	East South Central	Bradley County	4	100,055	medium
South	East South Central	Davidson County	91	635,475	large
South	East South Central	Greene County	9	69,339	small
South	East South Central	Hamilton County	21	340,855	large
South	East South Central	Knox County	132	436,929	large
South	East South Central	Madison County	15	98,255	medium
South	East South Central	Maury County	2	81,509	medium
South	East South Central	Montgomery County	4	176,619	large
South	East South Central	Putnam County	22	72,958	medium
South	East South Central	Robertson County	5	67,106	small
South	East South Central	Rutherford County	24	268,921	large
South	East South Central	Sevier County	3	91,466	medium
South	East South Central	Shelby County	273	935,088	large
South	East South Central	Sullivan County	84	157,419	large
South	East South Central	Sumner County	24	163,686	large
South	East South Central	Washington County	14	124,353	large
South	East South Central	Williamson County	47	188,560	large
South	East South Central	Wilson County	15	116,617	medium
South	West South Central	Angelina County	3	87,669	medium
South	West South Central	Bastrop County	21	75,115	medium
South	West South Central	Bell County	8	315,196	large
South	West South Central	Bexar County	141	1,756,153	large
South	West South Central	Bowie County	1	92,793	medium
South	West South Central	Brazoria County	101	319,973	large
South	West South Central	Brazos County	44	197,632	large
South	West South Central	Cameron County	5	414,123	large
South	West South Central	Collin County	1002	812,226	large
South	West South Central	Comal County	151	111,963	medium
South	West South Central	Coryell County	2	76,508	medium
South	West South Central	Dallas County	618	2,416,014	large
South	West South Central	Denton County	180	686,406	large
South	West South Central	Ector County	16	140,111	large
South	West South Central	Ellis County	16	152,753	large
South	West South Central	El Paso County	23	820,790	large
South	West South Central	Fort Bend County	867	606,953	large
South	West South Central	Galveston County	89	295,747	large
South	West South Central	Grayson County	11	121,419	large
South	West South Central	Gregg County	24	123,081	large
South	West South Central	Guadalupe County	4	135,757	large
South	West South Central	Harris County	932	4,180,894	large
South	West South Central	Harrison County	1	66,296	small

### Create size variable

region	division	US county name	Patents	Population	size
South	West South Central	Hays County	662	164,050	large
South	West South Central	Henderson County	9	78,826	medium
South	West South Central	Hidalgo County	1	797,810	large
South	West South Central	Hunt County	12	86,531	medium
South	West South Central	Jefferson County	14	252,802	large
South	West South Central	Johnson County	13	152,734	large
South	West South Central	Kaufman County	3	105,358	medium
South	West South Central	Liberty County	1	76,206	medium
South	West South Central	Lubbock County	11	283,910	large
South	West South Central	McLennan County	19	238,564	large
South	West South Central	Midland County	18	140,308	large
South	West South Central	Montgomery County	166	471,734	large
South	West South Central	Nacogdoches County	0	65,466	small
South	West South Central	Nueces County	17	343,281	large
South	West South Central	Orange County	3	82,487	medium
South	West South Central	Parker County	24	118,376	medium
South	West South Central	Potter County	7	122,285	large
South	West South Central	Randall County	8	123,351	large
South	West South Central	Rockwall County	27	81,290	medium
South	West South Central	San Patricio County	1	64,726	small
South	West South Central	Smith County	14	213,381	large
South	West South Central	Tarrant County	315	1,849,815	large
South	West South Central	Taylor County	2	132,755	large
South	West South Central	Tom Green County	1	111,823	medium
South	West South Central	Travis County	704	1,063,130	large
South	West South Central	Victoria County	1	87,545	medium
South	West South Central	Walker County	2	68,087	small
South	West South Central	Webb County	2	256,496	large
South	West South Central	Wichita County	5	130,698	large
South	West South Central	Williamson County	1072	442,782	large
West	Mountain	Cache County	54	114,699	medium
West	Mountain	Davis County	83	311,811	large
West	Mountain	Salt Lake County	453	1,048,985	large
West	Mountain	Utah County	325	530,499	large
West	Mountain	Washington County	15	141,666	large
West	Mountain	Weber County	41	234,420	large
Northeast	New England	Chittenden County	430	157,491	large
South	South Atlantic	Albemarle County	53	100,553	medium
South	South Atlantic	Arlington County	54	216,004	large
South	South Atlantic	Augusta County	5	74,897	medium
South	South Atlantic	Bedford County	8	69,246	small
South	South Atlantic	Chesterfield County	111	320,277	large
South	South Atlantic	Fairfax County	367	1,100,692	large
South	South Atlantic	Fauquier County	12	66,320	small
South	South Atlantic	Frederick County	9	79,666	medium
South	South Atlantic	Hanover County	13	100,342	medium

### Create size variable

region	division	US county name	Patents	Population	size
South	South Atlantic	Henrico County	53	310,445	large
South	South Atlantic	James City County	9	68,200	small
South	South Atlantic	Loudoun County	359	325,405	large
South	South Atlantic	Montgomery County	45	94,342	medium
South	South Atlantic	Prince William County	38	419,006	large
South	South Atlantic	Roanoke County	12	92,740	medium
South	South Atlantic	Rockingham County	4	76,589	medium
South	South Atlantic	Spotsylvania County	5	124,327	large
South	South Atlantic	Stafford County	9	132,133	large
South	South Atlantic	York County	24	66,134	small
South	South Atlantic	Alexandria city	25	144,301	large
South	South Atlantic	Chesapeake city	3	225,050	large
South	South Atlantic	Hampton city	1	136,401	large
South	South Atlantic	Lynchburg city	21	76,503	medium
South	South Atlantic	Newport News city	10	179,611	large
South	South Atlantic	Norfolk city	10	242,628	large
South	South Atlantic	Portsmouth city	3	95,684	medium
South	South Atlantic	Richmond city	27	205,533	large
South	South Atlantic	Roanoke city	12	96,714	medium
South	South Atlantic	Suffolk city	3	84,930	medium
South	South Atlantic	Virginia Beach city	28	442,707	large
West	Pacific	Benton County	64	180,678	large
West	Pacific	Chelan County	3	73,477	medium
West	Pacific	Clallam County	6	71,838	medium
West	Pacific	Clark County	247	433,418	large
West	Pacific	Cowlitz County	11	102,478	medium
West	Pacific	Franklin County	5	83,455	medium
West	Pacific	Grant County	4	91,265	medium
West	Pacific	Grays Harbor County	4	72,546	medium
West	Pacific	Island County	17	78,971	medium
West	Pacific	King County	3157	1,969,722	large
West	Pacific	Kitsap County	537	254,633	large
West	Pacific	Lewis County	4	75,901	medium
West	Pacific	Pierce County	116	807,904	large
West	Pacific	Skagit County	11	118,109	medium
West	Pacific	Snohomish County	324	722,400	large
West	Pacific	Spokane County	73	473,761	large
West	Pacific	Thurston County	36	256,591	large
West	Pacific	Whatcom County	43	203,663	large
West	Pacific	Yakima County	6	247,141	large
South	South Atlantic	Berkeley County	9	105,750	medium
South	South Atlantic	Cabell County	2	96,653	medium
South	South Atlantic	Harrison County	3	69,436	small
South	South Atlantic	Kanawha County	12	192,315	large
South	South Atlantic	Monongalia County	18	98,528	medium
South	South Atlantic	Raleigh County	1	79,127	medium

### Create size variable

region	division	US county name	Patents	Population	size
South	South Atlantic	Wood County	10	87,120	medium
Midwest	East North Central	Brown County	26	251,412	large
Midwest	East North Central	Dane County	373	495,959	large
Midwest	East North Central	Dodge County	36	88,661	medium
Midwest	East North Central	Eau Claire County	12	99,879	medium
Midwest	East North Central	Fond du Lac County	16	102,079	medium
Midwest	East North Central	Jefferson County	18	83,943	medium
Midwest	East North Central	Kenosha County	43	167,293	large
Midwest	East North Central	La Crosse County	17	115,572	medium
Midwest	East North Central	Manitowoc County	14	80,976	medium
Midwest	East North Central	Marathon County	16	134,400	large
Midwest	East North Central	Milwaukee County	172	952,532	large
Midwest	East North Central	Outagamie County	104	177,913	large
Midwest	East North Central	Ozaukee County	53	86,568	medium
Midwest	East North Central	Portage County	6	70,084	medium
Midwest	East North Central	Racine County	78	195,388	large
Midwest	East North Central	Rock County	38	160,092	large
Midwest	East North Central	St. Croix County	57	84,922	medium
Midwest	East North Central	Sheboygan County	35	115,149	medium
Midwest	East North Central	Walworth County	24	102,931	medium
Midwest	East North Central	Washington County	50	132,386	large
Midwest	East North Central	Waukesha County	277	390,730	large
Midwest	East North Central	Winnebago County	129	167,699	large
Midwest	East North Central	Wood County	2	74,785	medium
West	Mountain	Laramie County	0	92,680	medium
West	Mountain	Natrona County	3	76,366	medium