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SQL ASSIGNMENT

World Dataset

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# Task 1: Produce schema diagram

1. Creating Database ‘World’ as requested.

-- Create Database named 'world'

CREATE DATABASE world

1. Creating 3 tables (‘country’, ‘city’, ‘countrylanguage’) and input data by applying scripts provided.
2. Examining the dataset, it is found that:

* There are no established relationships between 3 tables (no FOREIGN KEYS are set in the tables)

🡪 Step to take: Alter tables to add FOREIGN KEY.

* And the relationship between ‘Country’ and ‘Language’ is many-to-many. Normalisation should be taken to break out this into 2 x one-to-many.

🡪 Step to take: Create a new table ‘language’ (from taking DISTINCT column

‘Language’ in table ‘countrylanguage’ and add into it the PRIMARY and FOREIGN KEYS.

1. Using following scripts to alter tables

[

-- Create a Table named language from Distinct column 'Language' in table countrylanguage

SELECT DISTINCT countrylanguage.Language AS 'LanguageName'

INTO language

FROM countrylanguage

ALTER TABLE language

ADD PRIMARY KEY (LanguageName)

-- Set Foreign Keys for tables

ALTER TABLE countrylanguage

ADD FOREIGN KEY (Language)

REFERENCES language (LanguageName)

ALTER TABLE countrylanguage

ADD FOREIGN KEY (CountryCode)

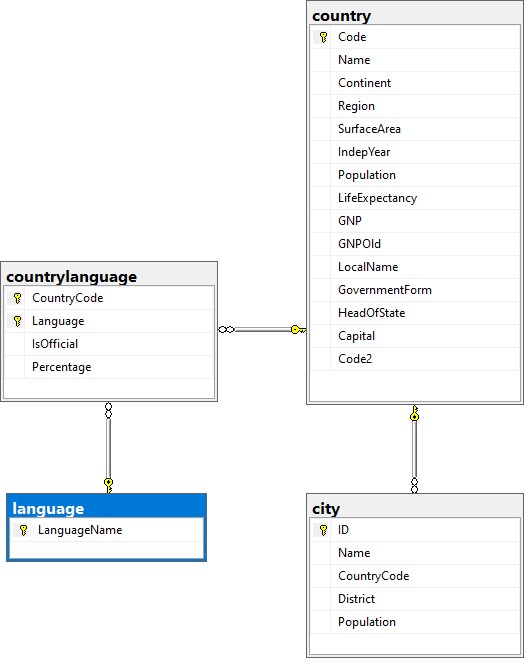
REFERENCES country (Code)

ALTER TABLE city

ADD FOREIGN KEY (CountryCode)

REFERENCES country (Code)

1. Scheme diagram is produced as shown below:



***Figure 1: Schema Diagram***

# Task 2: Using count, get the number of cities in the USA

* Applying the following scripts:

SELECT country.Name AS 'Country Name',

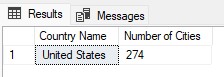
COUNT(city.name) AS 'Number of Cities'

FROM country

JOIN city ON country.Code = city.CountryCode

WHERE country.Code = 'USA'

GROUP BY country.Name

* Result as shown below:

***Figure 2: Number of cities in the USA***

# Task 3: Find out what the population and average life expectancy for people in Argentina (ARG)

* Applying the following scripts:

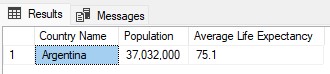
SELECT country.Name AS 'Country Name',

FORMAT (country.Population,'#,###,###,###,###') AS 'Population',

country.LifeExpectancy AS 'Average Life Expectancy'

FROM country

WHERE country.Code = 'ARG'

* Result as shown below:

***Figure 3: Population and Average Life Expectancy in ARG***

# Task 4: Using ORDER BY, LIMIT, what country has the highest life expectancy?

* Applying the following scripts:

SELECT TOP 1 country.Name AS 'Country Name',

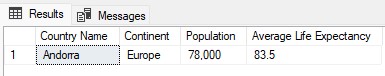
country.Continent,

FORMAT (country.Population,'#,###,###,###,###') AS 'Population',

country.LifeExpectancy AS 'Average Life Expectancy'

FROM country

ORDER BY country.LifeExpectancy DESC

* Result as shown below:

***Figure 4: Country with highest Life Expectancy***

Task 5: Select 25 cities around the world that start with the letter 'F' in a single SQL query

* Applying the following scripts:

SELECT TOP 25 city.Name AS 'City Name',

country.Name AS 'Country Name',

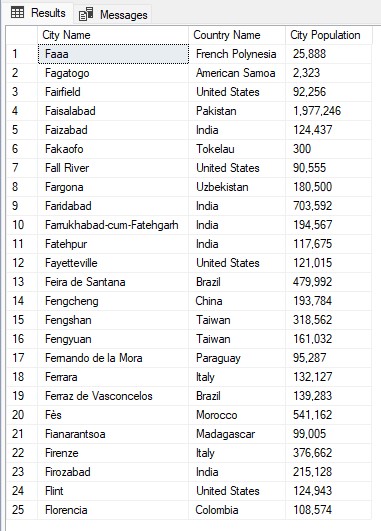
FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

JOIN country ON city.CountryCode = country.Code

WHERE city.Name LIKE 'F%'

ORDER BY city.Name

* Result as shown below:

***Figure 5: Top 25 Cities that start with the letter “F”***

Task 6: Create a SQL statement to display columns: Id, Name, Population from the city table and limit results to first 10 row only

* Applying the following scripts:

SELECT TOP 10 city.ID AS 'City ID',

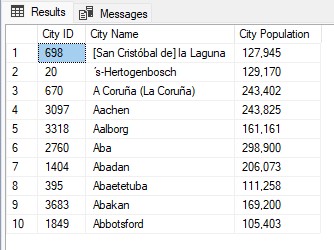
city.Name AS 'City Name',

FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

ORDER BY city.Name

* Result as shown below:



***Figure 6: List of 10 Cities information (ID, Name and Population)***

Task 7: Create a SQL statement to find only those cities from city table whose population is larger than 2000000.

* Applying the following scripts:

SELECT city.Name AS 'City Name',

country.Name AS 'Country Name',

FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

JOIN country ON country.Code = city.CountryCode

WHERE city.Population > 2000000

ORDER BY city.Population DESC

* Since result is a long list, it was saved as CSV file, opened by excel app and formatted as below:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **City Name** | **Country Name** | **City Population** |
| 1 | Mumbai (Bombay) | India | 10,500,000 |
| 2 | Seoul | South Korea | 9,981,619 |
| 3 | São Paulo | Brazil | 9,968,485 |
| 4 | Shanghai | China | 9,696,300 |
| 5 | Jakarta | Indonesia | 9,604,900 |
| 6 | Karachi | Pakistan | 9,269,265 |
| 7 | Istanbul | Turkey | 8,787,958 |
| 8 | Ciudad de México | Mexico | 8,591,309 |
| 9 | Moscow | Russian Federation | 8,389,200 |
| 10 | New York | United States | 8,008,278 |
| 11 | Tokyo | Japan | 7,980,230 |
| 12 | Peking | China | 7,472,000 |
| 13 | London | United Kingdom | 7,285,000 |
| 14 | Delhi | India | 7,206,704 |
| 15 | Cairo | Egypt | 6,789,479 |
| 16 | Teheran | Iran | 6,758,845 |
| 17 | Lima | Peru | 6,464,693 |
| 18 | Chongqing | China | 6,351,600 |
| 19 | Bangkok | Thailand | 6,320,174 |
| 20 | Santafé de Bogotá | Colombia | 6,260,862 |
| 21 | Rio de Janeiro | Brazil | 5,598,953 |
| 22 | Tianjin | China | 5,286,800 |
| 23 | Kinshasa | Congo, The Democratic Republic of the | 5,064,000 |
| 24 | Lahore | Pakistan | 5,063,499 |
| 25 | Santiago de Chile | Chile | 4,703,954 |
| 26 | St Petersburg | Russian Federation | 4,694,000 |
| 27 | Calcutta [Kolkata] | India | 4,399,819 |
| 28 | Wuhan | China | 4,344,600 |
| 29 | Baghdad | Iraq | 4,336,000 |
| 30 | Harbin | China | 4,289,800 |
| 31 | Shenyang | China | 4,265,200 |
| 32 | Kanton [Guangzhou] | China | 4,256,300 |
| 33 | Singapore | Singapore | 4,017,733 |
| 34 | Ho Chi Minh City | Vietnam | 3,980,000 |
| 35 | Chennai (Madras) | India | 3,841,396 |
| 36 | Pusan | South Korea | 3,804,522 |
| 37 | Los Angeles | United States | 3,694,820 |
| 38 | Dhaka | Bangladesh | 3,612,850 |
| 39 | Berlin | Germany | 3,386,667 |
| 40 | Rangoon (Yangon) | Myanmar | 3,361,700 |
| 41 | Chengdu | China | 3,361,500 |
| 42 | Jokohama [Yokohama] | Japan | 3,339,594 |
| 43 | Alexandria | Egypt | 3,328,196 |
| 44 | Riyadh | Saudi Arabia | 3,324,000 |
| 45 | Sydney | Australia | 3,276,207 |
| 46 | Ankara | Turkey | 3,038,159 |
| 47 | Buenos Aires | Argentina | 2,982,146 |
| 48 | Hyderabad | India | 2,964,638 |
| 49 | Casablanca | Morocco | 2,940,623 |
| 50 | Chicago | United States | 2,896,016 |
| 51 | Madrid | Spain | 2,879,052 |
| 52 | Ahmedabad | India | 2,876,710 |
| 53 | Nanking [Nanjing] | China | 2,870,300 |
| 54 | Melbourne | Australia | 2,865,329 |
| 55 | Changchun | China | 2,812,000 |
| 56 | Xi´an | China | 2,761,400 |
| 57 | Dalian | China | 2,697,000 |
| 58 | Surabaya | Indonesia | 2,663,820 |
| 59 | Bangalore | India | 2,660,088 |
| 60 | Roma | Italy | 2,643,581 |
| 61 | Taipei | Taiwan | 2,641,312 |
| 62 | Kyiv | Ukraine | 2,624,000 |
| 63 | Qingdao | China | 2,596,000 |
| 64 | Osaka | Japan | 2,595,674 |
| 65 | Inchon | South Korea | 2,559,424 |
| 66 | Taegu | South Korea | 2,548,568 |
| 67 | Abidjan | Côte d’Ivoire | 2,500,000 |
| 68 | Addis Abeba | Ethiopia | 2,495,000 |
| 69 | Pyongyang | North Korea | 2,484,000 |
| 70 | Bandung | Indonesia | 2,429,000 |
| 71 | Cape Town | South Africa | 2,352,121 |
| 72 | Salvador | Brazil | 2,302,832 |
| 73 | Nairobi | Kenya | 2,290,000 |
| 74 | Jinan | China | 2,278,100 |
| 75 | La Habana | Cuba | 2,256,000 |
| 76 | Giza | Egypt | 2,221,868 |
| 77 | Hangzhou | China | 2,190,500 |
| 78 | Quezon | Philippines | 2,173,831 |
| 79 | Alger | Algeria | 2,168,000 |
| 80 | Nagoya | Japan | 2,154,376 |
| 81 | Belo Horizonte | Brazil | 2,139,125 |
| 82 | Izmir | Turkey | 2,130,359 |
| 83 | Paris | France | 2,125,246 |
| 84 | Toskent | Uzbekistan | 2,117,500 |
| 85 | Zhengzhou | China | 2,107,200 |
| 86 | Fortaleza | Brazil | 2,097,757 |
| 87 | Cali | Colombia | 2,077,386 |
| 88 | Guayaquil | Ecuador | 2,070,040 |
| 89 | Jedda | Saudi Arabia | 2,046,300 |
| 90 | Shijiazhuang | China | 2,041,500 |
| 91 | Luanda | Angola | 2,022,000 |
| 92 | Bucuresti | Romania | 2,016,131 |

***Table 1: List of Cities whose population is larger than 2000000***

Task 8: Create a SQL statement to find all city names from city table whose name begins with “Be” prefix.

* Applying the following scripts:

SELECT city.Name AS 'City Name',

country.Name AS 'Country Name',

FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

JOIN country ON city.CountryCode = country.Code

WHERE city.Name LIKE 'BE%'

ORDER BY city.Name

* Since result is a long list, it was saved as CSV file, opened by excel app and formatted as below:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **City Name** | **Country Name** | **City Population** |
| 1 | Beau Bassin-Rose Hill | Mauritius | 100,616 |
| 2 | Beaumont | United States | 113,866 |
| 3 | Beawar | India | 105,363 |
| 4 | Beerseba | Israel | 163,700 |
| 5 | Bei´an | China | 204,899 |
| 6 | Beihai | China | 112,673 |
| 7 | Beipiao | China | 194,301 |
| 8 | Beira | Mozambique | 397,368 |
| 9 | Beirut | Lebanon | 1,100,000 |
| 10 | Bekasi | Indonesia | 644,300 |
| 11 | Belém | Brazil | 1,186,926 |
| 12 | Belfast | United Kingdom | 287,500 |
| 13 | Belford Roxo | Brazil | 425,194 |
| 14 | Belgaum | India | 326,399 |
| 15 | Belgorod | Russian Federation | 342,000 |
| 16 | Belize City | Belize | 55,810 |
| 17 | Bellary | India | 245,391 |
| 18 | Bellevue | United States | 109,569 |
| 19 | Bello | Colombia | 333,470 |
| 20 | Belmopan | Belize | 7,105 |
| 21 | Belo Horizonte | Brazil | 2,139,125 |
| 22 | Bender (Tîghina) | Moldova | 125,700 |
| 23 | Bene Beraq | Israel | 133,900 |
| 24 | Bengasi | Libyan Arab Jamahiriya | 804,000 |
| 25 | Bengbu | China | 449,245 |
| 26 | Bengkulu | Indonesia | 146,439 |
| 27 | Benguela | Angola | 128,300 |
| 28 | Beni-Mellal | Morocco | 140,212 |
| 29 | Benin City | Nigeria | 229,400 |
| 30 | Benito Juárez | Mexico | 419,276 |
| 31 | Benoni | South Africa | 365,467 |
| 32 | Bento Gonçalves | Brazil | 89,254 |
| 33 | Benxi | China | 770,000 |
| 34 | Beograd | Yugoslavia | 1,204,000 |
| 35 | Beppu | Japan | 127,486 |
| 36 | Berazategui | Argentina | 276,916 |
| 37 | Berdjansk | Ukraine | 130,000 |
| 38 | Berdytšiv | Ukraine | 90,000 |
| 39 | Berezniki | Russian Federation | 181,900 |
| 40 | Bergamo | Italy | 117,837 |
| 41 | Bergen | Norway | 230,948 |
| 42 | Bergisch Gladbach | Germany | 106,150 |
| 43 | Berhampore (Baharampur) | India | 115,144 |
| 44 | Berkeley | United States | 102,743 |
| 45 | Berlin | Germany | 3,386,667 |
| 46 | Bern | Switzerland | 122,700 |
| 47 | Besançon | France | 117,733 |
| 48 | Betim | Brazil | 302,108 |
| 49 | Bettiah | India | 92,583 |

***Table 2: List of Cities whose name start with prefix “BE”***

Task 9: Create a SQL statement to find only those cities from city table whose population is between 500000-1000000.

* Applying the following scripts:

SELECT city.Name AS 'City Name',

country.Name AS 'Country Name',

FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

JOIN country ON country.Code = city.CountryCode

WHERE city.Population between 500000 and 1000000

ORDER BY city.Population DESC

* Since result is a long list, it was saves as CSV file, opened by excel app and formatted as below:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **City Name** | **Country Name** | **City Population** |
| 1 | Amman | Jordan | 1,000,000 |
| 2 | Mogadishu | Somalia | 997,000 |
| 3 | Volgograd | Russian Federation | 993,400 |
| 4 | Sendai | Japan | 989,975 |
| 5 | Peshawar | Pakistan | 988,005 |
| 6 | Baotou | China | 980,000 |
| 7 | Adelaide | Australia | 978,100 |
| 8 | Madurai | India | 977,856 |
| 9 | Mekka | Saudi Arabia | 965,700 |
| 10 | Köln | Germany | 962,507 |
| 11 | Managua | Nicaragua | 959,000 |
| 12 | Detroit | United States | 951,270 |
| 13 | Shenzhen | China | 950,500 |
| 14 | Haora (Howrah) | India | 950,435 |
| 15 | Campinas | Brazil | 950,043 |
| 16 | Brazzaville | Congo | 950,000 |
| 17 | Khartum | Sudan | 947,483 |
| 18 | Karaj | Iran | 940,968 |
| 19 | Taichung | Taiwan | 940,589 |
| 20 | Santa Cruz de la Sierra | Bolivia | 935,361 |
| 21 | Varanasi (Benares) | India | 929,270 |
| 22 | Patna | India | 917,243 |
| 23 | Hohhot | China | 916,700 |
| 24 | Rosario | Argentina | 907,718 |
| 25 | Voronez | Russian Federation | 907,700 |
| 26 | Soweto | South Africa | 904,165 |
| 27 | Torino | Italy | 903,705 |
| 28 | San Jose | United States | 894,943 |
| 29 | Srinagar | India | 892,506 |
| 30 | Agra | India | 891,790 |
| 31 | Kampala | Uganda | 890,800 |
| 32 | Mandalay | Myanmar | 885,300 |
| 33 | Port-au-Prince | Haiti | 884,472 |
| 34 | Mosul | Iraq | 879,000 |
| 35 | Barquisimeto | Venezuela | 877,239 |
| 36 | Krasnojarsk | Russian Federation | 875,500 |
| 37 | Saratov | Russian Federation | 874,000 |
| 38 | Shubra al-Khayma | Egypt | 870,716 |
| 39 | São Gonçalo | Brazil | 869,254 |
| 40 | Songnam | South Korea | 869,094 |
| 41 | Chiba | Japan | 863,930 |
| 42 | Nova Iguaçu | Brazil | 862,225 |
| 43 | Naucalpan de Juárez | Mexico | 857,511 |
| 44 | Pikine | Senegal | 855,287 |
| 45 | Lubumbashi | Congo, The Democratic Republic of the | 851,381 |
| 46 | Freetown | Sierra Leone | 850,000 |
| 47 | Monrovia | Liberia | 850,000 |
| 48 | Zaporizzja | Ukraine | 848,000 |
| 49 | Handan | China | 840,000 |
| 50 | São Luís | Brazil | 837,588 |
| 51 | Wuxi | China | 830,000 |
| 52 | Ouagadougou | Burkina Faso | 824,000 |
| 53 | Ciudad de Guatemala | Guatemala | 823,301 |
| 54 | Coimbatore | India | 816,321 |
| 55 | Tegucigalpa | Honduras | 813,900 |
| 56 | Xuzhou | China | 810,000 |
| 57 | Bamako | Mali | 809,552 |
| 58 | Mbuji-Mayi | Congo, The Democratic Republic of the | 806,475 |
| 59 | Cartagena | Colombia | 805,757 |
| 60 | Ahvaz | Iran | 804,980 |
| 61 | Bengasi | Libyan Arab Jamahiriya | 804,000 |
| 62 | Thane (Thana) | India | 803,389 |
| 63 | Lódz | Poland | 800,110 |
| 64 | Datong | China | 800,000 |
| 65 | Yichun | China | 800,000 |
| 66 | Marseille | France | 798,430 |
| 67 | Sakai | Japan | 797,735 |
| 68 | Valencia | Venezuela | 794,246 |
| 69 | Allahabad | India | 792,858 |
| 70 | Indianapolis | United States | 791,926 |
| 71 | Gaziantep | Turkey | 789,056 |
| 72 | Lviv | Ukraine | 788,000 |
| 73 | Maceió | Brazil | 786,288 |
| 74 | Dakar | Senegal | 785,071 |
| 75 | Haiphong | Vietnam | 783,133 |
| 76 | Puchon | South Korea | 779,412 |
| 77 | Qom | Iran | 777,677 |
| 78 | San Francisco | United States | 776,733 |
| 79 | Ulan Bator | Mongolia | 773,700 |
| 80 | Athenai | Greece | 772,072 |
| 81 | Benxi | China | 770,000 |
| 82 | Calgary | Canada | 768,082 |
| 83 | Mexicali | Mexico | 764,902 |
| 84 | Riga | Latvia | 764,328 |
| 85 | Arequipa | Peru | 762,000 |
| 86 | Luoyang | China | 760,000 |
| 87 | La Paz | Bolivia | 758,141 |
| 88 | Johannesburg | South Africa | 756,653 |
| 89 | Suwon | South Korea | 755,550 |
| 90 | Meerut | India | 753,778 |
| 91 | Port Elizabeth | South Africa | 752,319 |
| 92 | Vishakhapatnam | India | 752,037 |
| 93 | Stockholm | Sweden | 750,348 |
| 94 | Duque de Caxias | Brazil | 746,758 |
| 95 | Culiacán | Mexico | 744,859 |
| 96 | Jabalpur | India | 741,927 |
| 97 | Valencia | Spain | 739,412 |
| 98 | Kraków | Poland | 738,150 |
| 99 | Jacksonville | United States | 735,167 |
| 100 | Amsterdam | Netherlands | 731,200 |
| 101 | Ogbomosho | Nigeria | 730,000 |
| 102 | Tainan | Taiwan | 728,060 |
| 103 | São Bernardo do Campo | Brazil | 723,132 |
| 104 | Toljatti | Russian Federation | 722,900 |
| 105 | Acapulco de Juárez | Mexico | 721,011 |
| 106 | Tlalnepantla de Baz | Mexico | 720,755 |
| 107 | Chisinau | Moldova | 719,900 |
| 108 | Cebu | Philippines | 718,821 |
| 109 | Malang | Indonesia | 716,862 |
| 110 | Columbus | United States | 711,470 |
| 111 | Suzhou | China | 710,000 |
| 112 | Hamhung | North Korea | 709,730 |
| 113 | Amritsar | India | 708,835 |
| 114 | Zagreb | Croatia | 706,770 |
| 115 | Faridabad | India | 703,592 |
| 116 | Mérida | Mexico | 703,324 |
| 117 | Kryvyi Rig | Ukraine | 703,000 |
| 118 | Sevilla | Spain | 701,927 |
| 119 | Vijayawada | India | 701,827 |
| 120 | Sharq al-Nil | Sudan | 700,887 |
| 121 | Xining | China | 700,200 |
| 122 | Huainan | China | 700,000 |
| 123 | Kermanshah | Iran | 692,986 |
| 124 | Teresina | Brazil | 691,942 |
| 125 | Gwalior | India | 690,765 |
| 126 | Tunis | Tunisia | 690,600 |
| 127 | Natal | Brazil | 688,955 |
| 128 | Toronto | Canada | 688,275 |
| 129 | Jixi | China | 683,885 |
| 130 | Palermo | Italy | 683,794 |
| 131 | Bandar Lampung | Indonesia | 680,332 |
| 132 | Antananarivo | Madagascar | 675,669 |
| 133 | Kano | Nigeria | 674,100 |
| 134 | Chihuahua | Mexico | 670,208 |
| 135 | San Luis Potosí | Mexico | 669,353 |
| 136 | Dubai | United Arab Emirates | 669,181 |
| 137 | Guadalupe | Mexico | 668,780 |
| 138 | Uljanovsk | Russian Federation | 667,400 |
| 139 | Nouakchott | Mauritania | 667,300 |
| 140 | Jodhpur | India | 666,279 |
| 141 | Toluca | Mexico | 665,617 |
| 142 | Ciudad Guayana | Venezuela | 663,713 |
| 143 | Khulna | Bangladesh | 663,340 |
| 144 | Daqing | China | 660,000 |
| 145 | Osasco | Brazil | 659,604 |
| 146 | Pretoria | South Africa | 658,630 |
| 147 | Nashik (Nasik) | India | 656,925 |
| 148 | Kumamoto | Japan | 656,734 |
| 149 | Austin | United States | 656,562 |
| 150 | Izevsk | Russian Federation | 652,800 |
| 151 | Trujillo | Peru | 652,000 |
| 152 | Baltimore | United States | 651,154 |
| 153 | Memphis | United States | 650,100 |
| 154 | Campo Grande | Brazil | 649,593 |
| 155 | Hubli-Dharwad | India | 648,298 |
| 156 | Colombo | Sri Lanka | 645,000 |
| 157 | Bekasi | Indonesia | 644,300 |
| 158 | Frankfurt am Main | Germany | 643,821 |
| 159 | Aguascalientes | Mexico | 643,360 |
| 160 | Fuxin | China | 640,000 |
| 161 | Querétaro | Mexico | 639,839 |
| 162 | Krasnodar | Russian Federation | 639,000 |
| 163 | Wroclaw | Poland | 636,765 |
| 164 | Genova | Italy | 636,104 |
| 165 | Inanda | South Africa | 634,065 |
| 166 | Jerusalem | Israel | 633,700 |
| 167 | Santo André | Brazil | 630,073 |
| 168 | Konya | Turkey | 628,364 |
| 169 | Amoy [Xiamen] | China | 627,500 |
| 170 | Okayama | Japan | 624,269 |
| 171 | Rabat | Morocco | 623,457 |
| 172 | North York | Canada | 622,632 |
| 173 | Lomas de Zamora | Argentina | 622,013 |
| 174 | Marrakech | Morocco | 621,914 |
| 175 | Bulawayo | Zimbabwe | 621,742 |
| 176 | Morelia | Mexico | 619,958 |
| 177 | Glasgow | United Kingdom | 619,680 |
| 178 | Winnipeg | Canada | 618,477 |
| 179 | Jaroslavl | Russian Federation | 616,700 |
| 180 | Edmonton | Canada | 616,306 |
| 181 | Liuzhou | China | 610,000 |
| 182 | Oran | Algeria | 609,823 |
| 183 | Habarovsk | Russian Federation | 609,400 |
| 184 | Hermosillo | Mexico | 608,697 |
| 185 | Medina | Saudi Arabia | 608,300 |
| 186 | Mississauga | Canada | 608,072 |
| 187 | Cúcuta | Colombia | 606,932 |
| 188 | Vladivostok | Russian Federation | 606,200 |
| 189 | Solapur (Sholapur) | India | 604,215 |
| 190 | Zaragoza | Spain | 603,367 |
| 191 | Zamboanga | Philippines | 601,794 |
| 192 | Essen | Germany | 599,515 |
| 193 | Ranchi | India | 599,306 |
| 194 | Milwaukee | United States | 596,974 |
| 195 | Scarborough | Canada | 594,501 |
| 196 | Irkutsk | Russian Federation | 593,700 |
| 197 | Rotterdam | Netherlands | 593,321 |
| 198 | Kathmandu | Nepal | 591,835 |
| 199 | Anyang | South Korea | 591,106 |
| 200 | Dortmund | Germany | 590,213 |
| 201 | Bishkek | Kyrgyzstan | 589,400 |
| 202 | Boston | United States | 589,141 |
| 203 | Mersin (Içel) | Turkey | 587,212 |
| 204 | Bareilly | India | 587,211 |
| 205 | Sagamihara | Japan | 586,300 |
| 206 | Guwahati (Gauhati) | India | 584,342 |
| 207 | João Pessoa | Brazil | 584,029 |
| 208 | Chongjin | North Korea | 582,480 |
| 209 | Stuttgart | Germany | 582,443 |
| 210 | Barnaul | Russian Federation | 580,100 |
| 211 | Shantou | China | 580,000 |
| 212 | Vilnius | Lithuania | 577,969 |
| 213 | Saltillo | Mexico | 577,352 |
| 214 | Poznan | Poland | 576,899 |
| 215 | Shambajinagar (Aurangabad) | India | 573,272 |
| 216 | Washington | United States | 572,059 |
| 217 | Phnom Penh | Cambodia | 570,155 |
| 218 | Jinzhou | China | 570,000 |
| 219 | Mudanjiang | China | 570,000 |
| 220 | Nashville-Davidson | United States | 569,891 |
| 221 | Düsseldorf | Germany | 568,855 |
| 222 | Hamamatsu | Japan | 568,796 |
| 223 | Nampo | North Korea | 566,200 |
| 224 | Durban | South Africa | 566,120 |
| 225 | Antalya | Turkey | 564,914 |
| 226 | Cochin (Kochi) | India | 564,589 |
| 227 | El Paso | United States | 563,662 |
| 228 | Seattle | United States | 563,374 |
| 229 | Lisboa | Portugal | 563,210 |
| 230 | Chonju | South Korea | 563,153 |
| 231 | Novokuznetsk | Russian Federation | 561,600 |
| 232 | Quetta | Pakistan | 560,307 |
| 233 | Rajkot | India | 559,407 |
| 234 | Quilmes | Argentina | 559,249 |
| 235 | Jaboatão dos Guararapes | Brazil | 558,680 |
| 236 | Asunción | Paraguay | 557,776 |
| 237 | Helsinki [Helsingfors] | Finland | 555,474 |
| 238 | Denver | United States | 554,636 |
| 239 | Kagoshima | Japan | 549,977 |
| 240 | Funabashi | Japan | 545,299 |
| 241 | Yinchuan | China | 544,500 |
| 242 | Fès | Morocco | 541,162 |
| 243 | Charlotte | United States | 540,828 |
| 244 | Ashgabat | Turkmenistan | 540,600 |
| 245 | Bremen | Germany | 540,330 |
| 246 | Almirante Brown | Argentina | 538,918 |
| 247 | Kota | India | 537,371 |
| 248 | Cotonou | Benin | 536,827 |
| 249 | Fort Worth | United States | 534,694 |
| 250 | Padang | Indonesia | 534,474 |
| 251 | El Alto | Bolivia | 534,466 |
| 252 | Penza | Russian Federation | 532,200 |
| 253 | Vientiane | Laos | 531,800 |
| 254 | Chongju | South Korea | 531,376 |
| 255 | N´Djaména | Chad | 530,965 |
| 256 | Málaga | Spain | 530,553 |
| 257 | Changzhou | China | 530,000 |
| 258 | Zhangjiakou | China | 530,000 |
| 259 | Rjazan | Russian Federation | 529,900 |
| 260 | Portland | United States | 529,121 |
| 261 | Torreón | Mexico | 529,093 |
| 262 | Islamabad | Pakistan | 524,500 |
| 263 | Thiruvananthapuram (Trivandrum | India | 524,006 |
| 264 | Bangui | Central African Republic | 524,000 |
| 265 | Dushanbe | Tajikistan | 524,000 |
| 266 | Panchiao | Taiwan | 523,850 |
| 267 | Orenburg | Russian Federation | 523,600 |
| 268 | La Plata | Argentina | 521,936 |
| 269 | Tanger | Morocco | 521,735 |
| 270 | Lipetsk | Russian Federation | 521,000 |
| 271 | Contagem | Brazil | 520,801 |
| 272 | Dandong | China | 520,000 |
| 273 | Hegang | China | 520,000 |
| 274 | Centro (Villahermosa) | Mexico | 519,873 |
| 275 | Duisburg | Germany | 519,793 |
| 276 | Surakarta | Indonesia | 518,600 |
| 277 | Koyang | South Korea | 518,282 |
| 278 | Higashiosaka | Japan | 517,785 |
| 279 | Pimpri-Chinchwad | India | 517,083 |
| 280 | Chiclayo | Peru | 517,000 |
| 281 | Bucaramanga | Colombia | 515,555 |
| 282 | São José dos Campos | Brazil | 515,553 |
| 283 | Hannover | Germany | 514,718 |
| 284 | Nabereznyje Tšelny | Russian Federation | 514,700 |
| 285 | Vancouver | Canada | 514,008 |
| 286 | Hachioji | Japan | 513,451 |
| 287 | Mar del Plata | Argentina | 512,880 |
| 288 | Ansan | South Korea | 510,314 |
| 289 | Kaifeng | China | 510,000 |
| 290 | Jalandhar (Jullundur) | India | 509,510 |
| 291 | Pohang | South Korea | 508,899 |
| 292 | Oslo | Norway | 508,726 |
| 293 | Mykolajiv | Ukraine | 508,000 |
| 294 | Hims | Syria | 507,404 |
| 295 | Oklahoma City | United States | 506,132 |
| 296 | Tula | Russian Federation | 506,100 |
| 297 | Gorakhpur | India | 505,566 |
| 298 | Pasig | Philippines | 505,058 |
| 299 | Salé | Morocco | 504,420 |
| 300 | Chandigarh | India | 504,094 |
| 301 | Sanaa | Yemen | 503,600 |
| 302 | Tjumen | Russian Federation | 503,400 |
| 303 | Pointe-Noire | Congo | 500,000 |

***Table 3: List of Cities whose population between 500K to 1000K***

# Task 10: Using LEFT JOIN, ON, what is the capital of Spain (ESP)?

* Applying the following scripts:

SELECT country.Name AS 'Country Name',

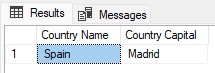
city.Name AS 'Country Capital'

FROM city

LEFT JOIN country ON city.CountryCode = country.Code

WHERE country.Code = 'ESP' AND city.ID=country.Capital

* Result as shown below:



***Figure 7: Capital of Spain (ESP)***

Task 11: Using LEFT JOIN, ON, list all the languages spoken in the 'Southeast Asia' region

* Applying the following scripts:

SELECT DISTINCT countrylanguage.Language AS 'Language',

COUNTRY.Region

FROM country

LEFT JOIN countrylanguage ON countrylanguage.CountryCode = country.Code

WHERE country.Region = 'Southeast Asia'

ORDER BY countrylanguage.Language

* Since result is a long list, it was saves as CSV file, opened by excel app and formatted as below:

|  |  |  |
| --- | --- | --- |
| **No.** | **Language** | **Region** |
| 1 | Bali | Southeast Asia |
| 2 | Banja | Southeast Asia |
| 3 | Batakki | Southeast Asia |
| 4 | Bicol | Southeast Asia |
| 5 | Bugi | Southeast Asia |
| 6 | Burmese | Southeast Asia |
| 7 | Cebuano | Southeast Asia |
| 8 | Chin | Southeast Asia |
| 9 | Chinese | Southeast Asia |
| 10 | Dusun | Southeast Asia |
| 11 | English | Southeast Asia |
| 12 | Hiligaynon | Southeast Asia |
| 13 | Iban | Southeast Asia |
| 14 | Ilocano | Southeast Asia |
| 15 | Javanese | Southeast Asia |
| 16 | Kachin | Southeast Asia |
| 17 | Karen | Southeast Asia |
| 18 | Kayah | Southeast Asia |
| 19 | Khmer | Southeast Asia |
| 20 | Kuy | Southeast Asia |
| 21 | Lao | Southeast Asia |
| 22 | Lao-Soung | Southeast Asia |
| 23 | Madura | Southeast Asia |
| 24 | Maguindanao | Southeast Asia |
| 25 | Malay | Southeast Asia |
| 26 | Malay-English | Southeast Asia |
| 27 | Man | Southeast Asia |
| 28 | Maranao | Southeast Asia |
| 29 | Miao | Southeast Asia |
| 30 | Minangkabau | Southeast Asia |
| 31 | Mon | Southeast Asia |
| 32 | Mon-khmer | Southeast Asia |
| 33 | Muong | Southeast Asia |
| 34 | Nung | Southeast Asia |
| 35 | Pampango | Southeast Asia |
| 36 | Pangasinan | Southeast Asia |
| 37 | Pilipino | Southeast Asia |
| 38 | Portuguese | Southeast Asia |
| 39 | Rakhine | Southeast Asia |
| 40 | Shan | Southeast Asia |
| 41 | Sunda | Southeast Asia |
| 42 | Tamil | Southeast Asia |
| 43 | Thai | Southeast Asia |
| 44 | Tho | Southeast Asia |
| 45 | Tšam | Southeast Asia |
| 46 | Vietnamese | Southeast Asia |
| 47 | Waray-waray | Southeast Asia |

***Table 4: List of Languages used in Southeast Asia***

# Task 12: Create a SQL statement to find a city with the lowest population in the city table.

* Applying the following scripts:

SELECT TOP 1 city.Name AS 'City Name',

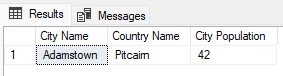
country.Name AS 'Country Name',

FORMAT (city.Population,'#,###,###,###,###') AS 'City Population'

FROM city

JOIN country ON country.Code = city.CountryCode

ORDER BY city.Population

* ******Result as shown below:

***Figure 8: City with lowest population***