**Trabalho prático de Bases de Dados**

Realizado por:

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1.

superchaves na tabela economy -> {Country}, {Country, GDP}, {Country, Agriculter}, {Country, Industry}, {Country, Inflaction}, {Country, Unemployment}, {Country, GDP, Agriculter}, {Country, GDP, Industry}, {Country, GDP, Inflaction} , {Country, GDP, Unemployment}, {Country, Agriculter, Industry}, {Country, Agriculter, Inflaction}, {Country, Agriculter, Unemployment}, {Country, Industry, Inflation}, {Country, Industry, Unemployment}, {Country, Inflaction, Unemployment}, {Country, GDP, Agriculter, Industry}, {Country, GDP, Agriculter, Inflaction}, {Country, GDP, Agriculter, Unemployment}, {Country, GDP, Industry, Inflaction}, {Country, GDP, Industry, Unemployment}, {Country, GDP, Inflaction, Unemployment}, {Country, GDP, Agriculter, Industry, Inflaction}, {Country, GDP, Agriculture, Industry, Unemployment}, {Country, GDP, Agriculter, Inflaction, Unemployment}, {Country, GDP, Industry, Inflaction, Unemployment}, {Country, Agriculter, Industry, Inflaction, Unemployment}, {Country, GDP, Agriculter, Industry, Inflaction, Unemployment}

chaves candidatas na tabela economy -> {Country}

chaves estrangeiras na tabela economy -> {Country}

superchaves na tabela organization -> {Name}, {Name, Abbreviation}, {Name, City}, {Name, Country}, {Name, Province}, {Name, Abbreviation, City}, {Name, Abbreviation, Country}, {Name, Abbreviation, Province}, {Name, City, Country}, {Name, City, Province}, {Name, Country, Province}, {Name, Abbreviation, City, Country}, {Name, Abbreviation, City, Province}, {Name, Abbreviation, Country, Province}, {Name, City, Country, Province}, {Name, Abbreviation, City, Country, Province}

chaves candidatas na tabela organization -> {Abbreviation}

chaves estrangeiras na tabela organization -> {Country}

superchaves na tabela isMember -> {Organization}, {Organization, Country}, {Organization, Type}, {Organization, Country, Type}

chaves candidatas na tabela isMember -> {Organization }

chaves estrangeiras na tabela isMember -> {Country}

2.a)

superchaves na tabela membro -> {Email}, {Nome, Email}, {Email, Ano}, {Nome, Email, Ano}

chaves candidatas na tabela membro -> {Email}

chaves estrangeiras na tabela membro -> {}

superchaves na tabela gostaDe -> {Nome}, {Country}, {Nome, Country}

chaves candidatas na tabela gostaDe -> {Nome, Country}

chaves estrangeiras na tabela gostaDe -> {Country}

2.b)

1. CREATE TABLE membro(
2. nome varchar(20),
3. email VARchar(50),
4. ano integer,
5. PRIMARY KEY (nome, email));

8. CREATE TABLE gostaDe (
9. nome varchar(20),
10. country varchar(4),
11. PRIMARY KEY (nome, country)),
12. FOREIGN KEY (country) REFERENCES country(code));

2.c)

1. INSERT INTO membro VALUES('Liliana Ferro', 'lilianaferro@gmail.com', '1970');
2. INSERT INTO membro VALUES('Ruben Fontes', 'rubenfontes@gmail.com', '1980');
3. INSERT INTO membro VALUES('Lyana Lalanda', 'lyanalalanda@gmail.com', '1960');
4. INSERT INTO membro VALUES('Salvador Valido', 'salvadorvalido@gmail.com', '1950');
5. INSERT INTO membro VALUES('Fábio Patrício', 'fabiopatricio@gmail.com', '1954');
6. INSERT INTO membro VALUES('Mathias Águeda', 'mathiasagueda@gmail.com', '1974');
7. INSERT INTO membro VALUES('Marisol Teves', 'marisolteves@gmail.com', '1998');
8. INSERT INTO membro VALUES('Débora Pederneiras', 'deborapederneiras@gmail.com', '1985');
9. INSERT INTO membro VALUES('Eunice Bogado', 'eunicebogado@gmail.com', '1990');
10. INSERT INTO membro VALUES('Katerina Mota', 'katerinemota@gmail.com', '1995');
11. INSERT INTO membro VALUES('Mercês Guimarães', 'mercesguimaraes@gmail.com', '1991');
12. INSERT INTO membro VALUES('Maurício Veríssimo', 'mauricioverissimo@gmail.com', '1993');
13. INSERT INTO membro VALUES('Anaisa Palhares', 'anaisapalhares@gmai.com', '1987');
14. INSERT INTO membro VALUES('Nicole Malho', 'nicolemalho@gmail.com', '1973');
15. INSERT INTO membro VALUES('Ludmila Monsanto', 'ludmilamonsanto@gmail.com', '1964');
16. INSERT INTO gostaDe (nome, country)
17. SELECT membros.nm, country.code
18. FROM (SELECT membro.nome as nm FROM membro limit 5 offset 0) as membros, encompasses, country WHERE encompasses.continent='Europe' and encompasses.country=country.code;
20. INSERT INTO gostaDe (nome, country)
21. SELECT membros.nm, country.code
22. FROM (SELECT membro.nome as nm FROM membro limit 5 offset 5) as membros, ismember, country WHERE ismember.organization='EU' and ismember.country=country.code;
24. INSERT INTO gostaDe (nome, country)
25. SELECT membros.nm, country.code
26. FROM (SELECT membro.nome as nm FROM membro limit 5 offset 10) as membros, language, country WHERE language.name='Portuguese' and language.country=country.code;

3.a)

1. SELECT name
2. FROM country, ismember
3. WHERE organization='EU' and country.code=ismember.country

3.b)

1. SELECT distinct name
2. FROM country, ismember, encompasses
3. WHERE organization!='EU' and country.code=ismember.country and encompasses.country=ismember.country and encompasses.continent='Europe'

3.c)

1. SELECT gdp
2. FROM country, ismember, economy
3. WHERE organization='EU' and country.code=ismember.country and economy.country=ismember.country

3.d)

1. SELECT country.name
2. FROM (SELECT min(gdp) as n FROM economy, encompasses WHERE encompasses.continent='Europe' and economy.country=encompasses.country) as r, economy, country
3. WHERE r.n=gdp and economy.country=country.code

3.e)

1. SELECT organization.name, count(ismember.country)
2. FROM ismember, organization
3. WHERE ismember.organization=organization.abbreviation
4. group by organization.name

3.f)

1. SELECT country.name, count(ismember.country)
2. FROM ismember, country
3. WHERE ismember.country=country.code
4. group by country.name

3.g)

1. with count\_cnts(name, n) as (SELECT country.name, count(ismember.country) as n
2. FROM ismember, country
3. WHERE ismember.country=country.code
4. group by country.name)
5. SELECT name
6. FROM (SELECT max(n) as n FROM count\_cnts) as r, count\_cnts
7. WHERE r.n= count\_cnts.n

3.h)

1. with count\_orgs(name, n) as (SELECT organization.name, count(ismember.country) as n
2. FROM ismember, organization
3. WHERE ismember.organization=organization.abbreviation
4. group by organization.name)
5. SELECT name
6. FROM (SELECT min(n) as n FROM count\_orgs) as r, count\_orgs
7. WHERE r.n= count\_orgs.n

3.i)

1. SELECT country.name
2. FROM (SELECT max(gdp) as n FROM economy) as r, economy, country
3. WHERE r.n=gdp and economy.country=country.code

3.j)

1. SELECT distinct name
2. FROM (SELECT organization as org FROM ismember WHERE country='MA') as n, ismember, country
3. WHERE ismember.country=country.code and ismember.organization=n.org

3.k)

1. SELECT organization
2. FROM ismember
3. WHERE ismember.country='B'
4. INTERSECT
5. SELECT organization
6. FROM ismember
7. WHERE ismember.country='L'
8. INTERSECT
9. SELECT organization
10. FROM ismember
11. WHERE ismember.country='NL';