

## Sommario

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[1]

**Update world\_data**

`Set gas_price = cast(replace(gas_price, '$', '') as numeric;`  
`[esempio di quanto fatto con la colonna "gas_price"].`

[2]

**Alter table world\_data**

`Add column co2_per_abitante numeric;`

**Update world\_data**

`set co2_per_abitante = co2/population`

[2.1]

```
select corr(physician_per1000p, life_expect)
from world_data
```

[2.2]

```
select corr(life_expect, fertility_rate)
from world_data
```

[2.3]

```
select corr(life_expect, infant_mortality)
from world_data
```

[2.4]

```
select corr(life_expect, co2_per_abitante)
from world_data
```

[2.5]

```
select corr(gdp_pp, infant_mortality)
from world_data
```

[2.6]

```
select corr(gdp_pp, min_wage)
from world_data
```

[2.7]

```
select corr(co2, population)
from world_data
```

[2.8]

```
select avg(co2_per_abitante) as Media, stddev(co2_per_abitante) as Deviazione_standard
from world_data
```

[3]

```
select country, co2, population from world_data
where co2 is not null order by co2 desc
limit 10
```

[4]

```
select corr(gdp, co2)
from world_data
```

[5]

```
select avg("access_electr%")as media_corrente_elettrica, e_year
from sust_energy
group by e_year
order by e_year
```

[5.1]

```
select avg("access_fuels_%")as media_disponibilità_combustibili, e_year
from sust_energy
group by e_year
order by e_year
```

[5.2]

```
select avg(co2_kt) as co2_in_kiloton, e_year
```

```
from sust_energy
group by e_year
order by e_year
```

[5.3]

```
select e_year, avg(twh_fossil) as twh_da_fossili, avg(twh_nuclear) as twh_da_nucleare, avg(twh_renew) as
twh_da_rinnovabili
from sust_energy
group by e_year
order by e_year
```

[5.4]

```
select e_year, avg(gdp_pp) as gdp_pro_capite
from sust_energy
group by e_year
order by e_year
```

[5.5]

```
select country, "renew_%"
from sust_energy
where e_year=2020
and "renew_%" is not null
order by "renew_%" desc
limit 10
```

[5.6]

```
SELECT
country,
(SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
(SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
differenza_elettricità
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
order by differenza_elettricità desc
limit 10
```

[5.7]

```
with tabella_crescita as (
SELECT
country,
(SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
(SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
differenza_elettricità
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "access_electr%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
)
select avg(differenza_elettricità)
from tabella_crescita
```

[5.8]

```
SELECT
    country,
    (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
    differenza_combustibili
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
order by differenza_combustibili desc
limit 10
```

[5.9]

```
with tabella_crescita as (
    SELECT
        country,
        (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
        (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000)
    AS differenza_combustibili
    FROM sust_energy s
    WHERE e_year = 2020
    and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is
not null
    and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is
not null)
select avg(differenza_combustibili), stddev(differenza_combustibili)
from tabella_crescita
```

[6]

```
with tabella as (
    SELECT
        country,
        (SELECT twh_fossil FROM sust_energy WHERE country = s.country AND e_year = 2020) -
        (SELECT twh_fossil FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
        differenza_fossile,
        (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2020) -
        (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
        differenza_rinnovabile
    FROM sust_energy s
    WHERE e_year = 2020
    and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
    and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
)
select country, differenza_fossile, differenza_rinnovabile, differenza_rinnovabile - differenza_fossile as
    virtuosismo_energetico
from tabella
order by virtuosismo_energetico
limit 10
```

[6.1]

```
with tabella as (
```

```

SELECT
    country,
    (SELECT twh_fossil FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT twh_fossil FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
differenza_fossile,
    (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
differenza_rinnovabile
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "access_fuels_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
)
select t.country, t.differenza_fossile, differenza_rinnovabile, differenza_rinnovabile - differenza_fossile as
virtuosismo_energetico, round(avg(gdp_growth),2) as crescita_media_gdp
from tabella t
inner join sust_energy s
on s.country = t.country
group by t.country, t.differenza_fossile, t.differenza_rinnovabile
order by avg(gdp_growth)

```

[6.2]

```

with tabella as (
SELECT
    country,
    (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
decarbonizzazione
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
)
select country, decarbonizzazione
from tabella
order by decarbonizzazione asc

```

[6.3]

```

with tabella as (
SELECT
    country,
    (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
decarbonizzazione,
    (SELECT "renew_" FROM sust_energy WHERE country = s.country AND e_year = 2020) -
    (SELECT "renew_" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
ricorso_rinnovabili
FROM sust_energy s
WHERE e_year = 2020
and (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "low_carbon_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
and (SELECT "renew_" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
and (SELECT "renew_" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
)
select country, ricorso_rinnovabili
from tabella
order by ricorso_rinnovabili

```

[6.4]

```
with tabella as (  
  SELECT  
    country,  
    (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -  
    (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS  
    decarbonizzazione,  
    (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -  
    (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS ricorso_rinnovabili,  
    (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2020) -  
    (SELECT twh_renew FROM sust_energy WHERE country = s.country AND e_year = 2000) AS variazione_rinn  
  FROM sust_energy s  
  WHERE e_year = 2020  
  and (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null  
  and (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null  
  and (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null  
  and (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null  
)  
select t.country, CONCAT(ricorso_rinnovabili, '%') as "var_ricorso_rinn_%", twh_renew as twh_2020,  
variazione_rinn as var_rinn_twh  
from tabella t  
inner join sust_energy s  
on t.country = s.country where s.e_year=2020  
order by ricorso_rinnovabili
```

[6.5]

```
with tabella as (  
  SELECT  
    country,  
    (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -  
    (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS  
    decarbonizzazione,  
    (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) -  
    (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) AS  
    ricorso_rinnovabili  
  FROM sust_energy s  
  WHERE e_year = 2020  
  and (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null  
  and (SELECT "low_carbon_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null  
  and (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null  
  and (SELECT "renew_%" FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null  
)  
select corr(ricorso_rinnovabili, decarbonizzazione)  
from tabella
```

[6.6]

```
select s.country, twh_renew  
from sust_energy s  
inner join world_data w  
on s.country=w.country
```

```
where currency like 'EUR'  
and e_year=2020  
order by twh_renew desc  
limit 10
```

[6.7]

```
with tabella as (
```

```
SELECT
```

```
    s.country,
```

```
    (SELECT pp_energy_cons FROM sust_energy WHERE country = s.country AND e_year = 2020) -
```

```
    (SELECT pp_energy_cons FROM sust_energy WHERE country = s.country AND e_year = 2000) AS
```

```
variazione_consumi_pp
```

```
FROM sust_energy s
```

```
inner join world_data w
```

```
on s.country=w.country
```

```
WHERE e_year = 2020
```

```
and w.currency like 'EUR'
```

```
and (SELECT pp_energy_cons FROM sust_energy WHERE country = s.country AND e_year = 2020) is not null
```

```
and (SELECT pp_energy_cons FROM sust_energy WHERE country = s.country AND e_year = 2000) is not null
```

```
)
```

```
select t.country, variazione_consumi_pp as variazione_kwh_pp
```

```
from tabella t
```

```
order by variazione_consumi_pp desc
```