



Homework Assignment for Business Intelligence Lead

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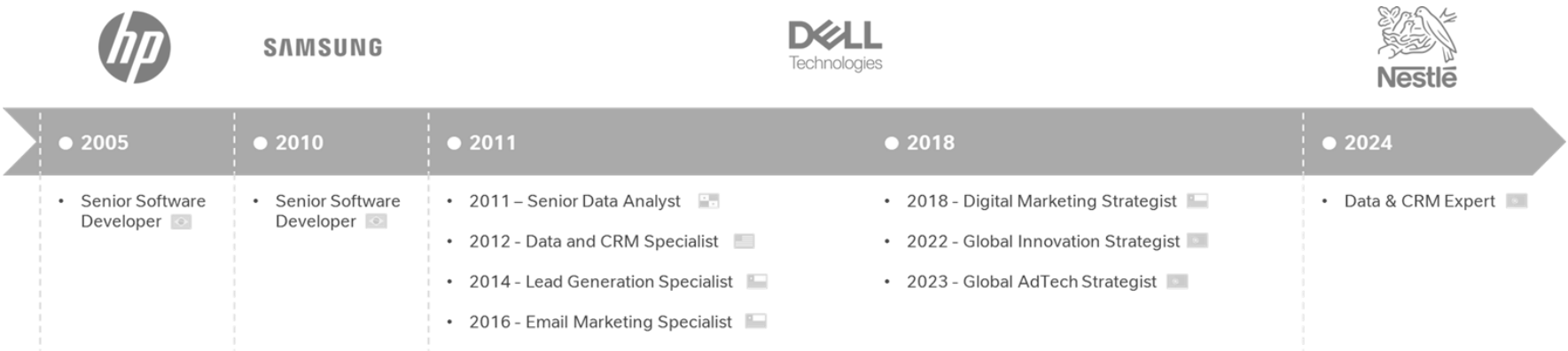
About me



Rafael Fagundes

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With 10+ years in data analysis and marketing, I specialize in scalable solutions and automation using tools like SQL and Python.



Query

```
CREATE TABLE user_locations (  
  user_id INT PRIMARY KEY,  
  country_id INT,  
  country_name VARCHAR(255)  
);
```

```
CREATE TABLE transactions (  
  transaction_id INT PRIMARY KEY,  
  user_id INT,  
  transaction_date DATE,  
  source_currency VARCHAR(3),  
  target_currency VARCHAR(3),  
  transaction_volume INT,  
  FOREIGN KEY (user_id) REFERENCES user_locations(user_id)  
);
```

```
CREATE TABLE currency_rates (  
  currency VARCHAR(3) PRIMARY KEY,  
  rate_to_gbp FLOAT  
);
```

```
INSERT INTO user_locations (  
  user_id  
  ,country_id  
  ,country_name  
)  
VALUES  
(1, 22, 'United Kingdom')  
(2, 18, 'Italy');
```

```
INSERT INTO transactions (  
  transaction_id  
  ,user_id  
  ,transaction_date  
  ,source_currency  
  ,target_currency  
  ,transaction_volume  
)  
VALUES  
(1, 2, '2020-12-01', 'EUR', 'GBP', 100),  
(2, 2, '2020-04-03', 'EUR', 'USD', 50),  
(3, 1, '2020-06-08', 'EUR', 'EUR', 100),  
(4, 1, '2020-11-02', 'USD', 'TRY', 500),  
(5, 1, '2020-10-27', 'TRY', 'EUR', 1000),  
(6, 1, '2020-06-06', 'USD', 'GBP', 10);
```

```
INSERT INTO currency_rates (  
  currency  
  ,rate_to_gbp  
)  
VALUES  
( 'USD', 0.85),  
( 'EUR', 0.92),  
( 'TRY', 0.1);
```

```
SELECT
  ul.country_name AS country
,ROUND(SUM(t.transaction_volume * cr.rate_to_gbp)) AS xccy_volume
FROM
  transactions t
JOIN user_locations ul ON t.user_id = ul.user_id
JOIN currency_rates cr ON t.source_currency = cr.currency
WHERE
  t.source_currency <> t.target_currency
AND strftime('%Y', t.transaction_date) = '2020'
GROUP BY
  ul.country_name
ORDER BY
  xccy_volume DESC
LIMIT 5;
```

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