



Optimizer

Exercises

Exercise 4 – Tourist Village

- The following relations are given (primary keys are underlined):
 - TOURIST(FiscalCode, Name, BirthDate, CreditCard, Nation)
 - VILLAGE (CodV, CompanyName, Name, City, #Stars)
 - AVAILABLE_SERVICES(CodV, ServiceName)
 - BOOKING_STAY(FiscalCode, StartDate, CodV, EndDate, Amount, #Adults, #Children, Deposit)

- $\text{card}(\text{TOURIST}) = 10^5$ tuples
 - $\text{MIN}(\text{BirthDate}) = 1-1-1940$
 - $\text{MAX}(\text{BirthDate}) = 31-12-1999$
 - distinct values of Nation ≈ 100
- $\text{card}(\text{VILLAGE}) = 10^3$ tuples
 - valori distinti di Città ≈ 100
- $\text{card}(\text{AVAILABLE_SERVICES}) = 10^4$ tuples
 - distinct values of ServiceName ≈ 20
- $\text{card}(\text{BOOKING_STAY}) = 10^9$ tuples
 - $\text{MIN}(\text{StartDate}) = 01-01-2013$
 - $\text{MAX}(\text{StartDate}) = 31-12-2013$
- Selectivity $\text{HAVING COUNT}(\ast) \geq 2$ equal to $1/1000$

Query 1

```
SELECT B.FiscalCode
FROM BOOKING_STAY B, VILLAGE V,
     AVAILABLE_SERVICES A,
WHERE B.CodV=V.CodV and V.CodV=A.CodV and
     B.StartDate≥ 01/07/2013 and
     V.City='Santo Domingo' and
     (A.ServiceName='Wi-Fi' or
     A.ServiceName = 'Tennis court')
GROUP BY B.FiscalCode
HAVING COUNT(*)≥2
```