DBT Problem Solving - Set - 018

Feb19/ DBT-PS/ 018

Database Technologies

Diploma in Advance Computing

February 2019

**Types Table: (for Cars)**

|  |  |
| --- | --- |
| **typeId** | **name** |
| 1 | SUV |
| 2 | convertible |
| 3 | coupe |
| 4 | hatchback |
| 5 | sedan |
| 6 | Pick-up |

**Brands Table:**

|  |  |
| --- | --- |
| **brandid** | **name** |
| 1 | Abarth |
| 2 | Alfa |
| 3 | Asia |
| 4 | Aston |
| 5 | Audi |
| 6 | Austin |
| 7 | Autobianchi |
| 8 | Bentley |
| 9 | BMW |
| 10 | Bugatti |
| 11 | Buick |
| 12 | Cadillac |
| 13 | Carver |
| 14 | Chevrolet |
| 15 | Chrysler |
| 16 | Citroen |
| 17 | Corvette |
| 18 | Dacia |
| 19 | Daewoo |
| 20 | Daihatsu |
| 21 | Daimler |
| 22 | Datsun |
| 23 | Dodge |
| 24 | Donkervoort |
| 25 | DS |
| 26 | Ferrari |
| 27 | Fiat |
| 28 | Fisker |
| 29 | Ford |
| 30 | FSO |

**Type\_Brand Table:**

|  |  |  |
| --- | --- | --- |
| **Id** | **typeid** | **brandid** |
| 1 | 1 | 2 |
| 2 | 1 | 5 |
| 3 | 1 | 12 |
| 4 | 1 | 52 |
| 5 | 1 | 58 |
| 6 | 1 | 64 |
| 7 | 1 | 75 |
| 8 | 1 | 88 |
| 9 | 1 | 5 |
| 10 | 1 | 29 |
| 11 | 1 | 29 |
| 12 | 1 | 34 |
| 13 | 1 | 40 |
| 14 | 1 | 40 |
| 15 | 1 | 44 |
| 16 | 1 | 50 |
| 17 | 1 | 55 |
| 18 | 1 | 59 |
| 19 | 1 | 64 |
| 20 | 1 | 65 |
| 21 | 1 | 74 |
| 22 | 1 | 78 |
| 23 | 1 | 80 |
| 24 | 1 | 82 |
| 25 | 1 | 84 |
| 26 | 1 | 84 |
| 27 | 1 | 87 |
| 28 | 2 | 5 |
| 29 | 2 | 5 |
| 30 | 2 | 9 |

**Models Table:**

|  |  |  |
| --- | --- | --- |
| **modelid** | **type\_brandid** | **name** |
| 1 | 1 | Alfa Romeo Stelvio |
| 2 | 2 | Audi Q5 |
| 3 | 3 | Cadillac XT5 |
| 4 | 4 | Mazda CX-5 |
| 5 | 5 | Mini Countryman |
| 6 | 6 | Opel Crossland X |
| 7 | 7 | Skoda Kodiaq |
| 8 | 8 | Volvo XC60 |
| 9 | 9 | Audi Q2 |
| 10 | 10 | Ford Edge |
| 11 | 11 | Ford Kuga |
| 12 | 12 | Hyundai Santa Fe |
| 13 | 13 | Kia Niro |
| 14 | 14 | Kia Sportage |
| 15 | 15 | Land Rover Discovery |
| 16 | 16 | Maserati Levante |
| 17 | 17 | Mercedes-Benz GLC-class Coupe |
| 18 | 18 | Mitsubishi ASX |
| 19 | 19 | Opel Mokka X |
| 20 | 20 | Peugeot 2008 |
| 21 | 21 | Seat Ateca |
| 22 | 22 | Ssangyong XLV |
| 23 | 23 | Suzuki S-Cross |
| 24 | 24 | Tesla Model X |
| 25 | 25 | Toyota C-HR |
| 26 | 26 | Toyota RAV4 |
| 27 | 27 | Volkswagen Tiguan |
| 28 | 28 | Audi A5 Cabriolet |
| 29 | 29 | Audi S5 Cabriolet |
| 30 | 30 | BMW 4-series Cabrio |

**ColorCode Table:**

|  |  |
| --- | --- |
| **id** | **color** |
| 1 | Lizstick Red |
| 2 | Mango Orange |
| 3 | Verdoro Green |
| 4 | Liquid Yellow |
| 5 | Beluga Brown |
| 6 | Silver |
| 7 | Black |
| 8 | White |
| 9 | Nardo Grey |
| 10 | Light Brown |
| 11 | Orange |
| 12 | Mustard |
| 13 | Sub-lime |
| 14 | Silver Birch |
| 15 | Guards Red |
| 16 | Rosso Corsa |
| 17 | Norfolk Mustard |
| 18 | Ultimate Green |
| 19 | Estoril Blue |
| 20 | Pink Kong |

**ModelColors Table:**

|  |  |  |
| --- | --- | --- |
| **id** | **modelid** | **colorid** |
| 1 | 1 | 10 |
| 2 | 2 | 12 |
| 3 | 3 | 1 |
| 4 | 4 | 20 |
| 5 | 5 | 4 |
| 6 | 6 | 15 |
| 7 | 7 | 7 |
| 8 | 8 | 9 |
| 9 | 9 | 12 |
| 10 | 10 | 19 |
| 11 | 11 | 10 |
| 12 | 12 | 4 |
| 13 | 13 | 10 |
| 14 | 14 | 17 |
| 15 | 15 | 9 |
| 16 | 16 | 16 |
| 17 | 17 | 1 |
| 18 | 18 | 8 |
| 19 | 19 | 13 |
| 20 | 20 | 10 |
| 21 | 21 | 1 |
| 22 | 22 | 14 |
| 23 | 23 | 16 |
| 24 | 24 | 10 |
| 25 | 25 | 8 |
| 26 | 26 | 16 |
| 27 | 27 | 17 |
| 28 | 28 | 16 |
| 29 | 29 | 18 |
| 30 | 30 | 20 |

**Given the above tables solve the following queries.**

1. **Write a query to display all car type name and its brand name.**

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1. **Write a query to display all brand name and its car model names.**

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1. **Write a query to display all car names and in which color it is available.**

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1. **Write a query to display all cars which are available in 'Liquid Yellow' color.**

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1. **Write a query to display all models of 'Volvo' brand.**

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1. **Write a query to display to count of car brands.**

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1. **Write a query to display the brand name and total count of models for every brand.**

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1. **Write a query to display type-name-wise, brand-name-wise count of all car models.**

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**ANS.**

1. **select types.name, brand.name from types, brand, type\_brand where types.typeid = type\_brand.typeid and brand.brandid = type\_brand.brandid;**
2. **select brand.name, models.name from brand, type\_brand, models where brand.brandid = type\_brand.brandid and type\_brand.id = models.type\_brandid;**
3. **select models.name, colorcode.name from models, colorcode, modelcolors where models.modelid = modelcolors.modelid and modelcolors.colorid = colorcode.id;**
4. **select models.name, colorcode.name from models, colorcode, modelcolors where models.modelid = modelcolors.modelid and modelcolors.colorid = colorcode.id and colorcode.name = 'Liquid Yellow';**
5. **select models.name from models, types, brand, type\_brand where types.typeid = type\_brand.typeid and brand.brandid = type\_brand.brandid and models.type\_brandid = type\_brand.id and brand.name = 'Volvo';**
6. **select count(\*) from brand;**
7. **select brand.name, count(\*) from brand, type\_brand, models where brand.brandid = type\_brand.brandid and type\_brand.id = models.type\_brandid group by brand.name;**
8. **select types.name, brand.name, count(\*) from types, brand, type\_brand, models where brand.brandid = type\_brand.brandid and type\_brand.id = models.type\_brandid and types.typeid = type\_brand.typeid group by types.name, brand.name order by types.name, brand.name;**
9. **Q**
10. **Q**
11. **Q**
12. **Q**
13. **Q**
14. **Q**
15. **Q**