伯裘書院

中四 - 資訊及通訊科技科

第八章 – 數據庫

姓名：　 　　　班別： (　　)　　日期：

1. 下列各個資料表的設計有甚麼問題？   
   (a)

|  |  |  |  |
| --- | --- | --- | --- |
| student\_no | student\_name | age | Sex |
| 1001 | Albert Wong | 18 | M |

不應使用欄位「age」，因為其數值會每年更改。因此，每年每項記錄都需要進行更新   
。所以，應該使用「出生日期」取代欄位「age」。　

(b)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| student\_no | course1 | course2 | course3 | course4 | course5 |
| 1001 | Psychology | Sociology | Marketing |  |  |

部份欄位或會為空白值，這會浪費大量的磁碟空間。這設計亦不容許學生同時修讀六   
個科目，與現實情況有出入。

(c)

|  |  |  |
| --- | --- | --- |
| student\_no | student\_name | course\_taken |
| 1001 | Chris Wong | Psychology, Sociology, Marketing |

欄位「course\_taken」貯存多於一個數值。設計欄位時，應設計所有欄位都應該只貯存   
一個數值。

1. 以下顯示是「cars」資料表內的數據。

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| registration | make | model | colour | engine\_size | price | door | sunroof | automatic | mileage |
| FL218 | Ford | Fiesta | Red | 2000 | 210000 | 5 | Yes | Yes | 170000 |
| GH2349 | Nissan | Tida | Yellow | 1489 | 155000 | 5 | No | Yes | 32000 |
| GT9267 | Volvo | S70 | Blue | 2400 | 256000 | 4 | Yes | Yes | 80000 |
| HC2886 | Audi | A4 | Black | 1800 | 360000 | 4 | No | Yes | 43000 |
| LT1298 | Renault | 307 | Green | 1600 | 188000 | 5 | Yes | Yes | 90000 |
| MZ100 | Toyota | Corolla | Black | 1489 | 168000 | 4 | No | No | 18000 |
| LX4827 | Honda | Jazz | White | 1300 | 142000 | 5 | No | No | 78000 |
| LA1428 | Mazda | M6 | Grey | 2000 | 185000 | 4 | Yes | Yes | 13000 |
| LB3453 | BMW | M3 | Silver | 2300 | 460000 | 4 | Yes | Yes | 45000 |
| HK97 | Ford | Golf | Silver | 2000 | 256000 | 5 | Yes | Yes | 18000 |

試為以下各項資訊建立一個查詢。

1. 所有車輛的「registration」、「make」和「model」資料

SELECT registration, make, model FROM cars;

1. 非開篷車的所有資料

SELECT \* FROM cars WHERE sunroof = “No”;

1. 所有低於$250,000的Ford汽車的「registration」、「make」和「price」資料

SELECT registration, make, price FROM cars WHERE make = “Ford” and price < 250000;   
　

1. 所有開篷車的「registration」、「sunroof」和「mileage」資料，並依「mileage」欄位作遞增排序

SELECT registration, sunroof, mileage FROM cars WHERE sunroof = “Yes” ORDER BY mileage;   
　

1. 所有藍色或紅色車輛的「make」、「model」、「colour」和「engine\_size」資料，並依「engine\_size」欄位作遞減排序

SELECT make, model, colour, engine\_size FROM cars WHERE colour = “Red” or   
colour = “Blue” ORDER BY engine\_size DESC;

1. 所有車輛的「registration」、「model」和「price」資料，並依「make」和「model」欄位以英文字母順序排序

SELECT registration, model, price FROM cars ORDER BY make, model;   
　

1. 價格在$200,000與$400,000之間的車輛的所有資料

SELECT \* FROM cars WHERE price BETWEEN 200000 AND 400000;   
　

1. 非開篷車的車輛數目

SELECT count(\*) FROM cars WHERE sunroof = “No”;　   
　

1. 最昂貴的車輛

SELECT MAX(price) FROM cars;　   
　

1. 所有車輛「make」、「model」和新價格 ( 新價格是舊價格的110% )

SELECT make, model, price\*1.1 AS new\_price FROM cars;