**Aplicar las reglas de normalización los siguientes ejercicios.**

1. **Un dato sin normalizar no cumple con ninguna regla de normalización. Para explicar con un ejemplo en qué consiste cada una de las reglas, vamos a considerar los datos de la siguiente tabla.   
     
   *ordenes* (id\_orden, fecha, id\_cliente, nom\_cliente, estado, num\_art, nom\_art, cant, precio)**

**Ordenes**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Id\_orden** | **Fecha** | **Id\_cliente** | **Nom\_cliente** | **Estado** | **Num\_art** | **nom\_art** | **cant** | **Precio** |
| **2301** | **23/02/11** | **101** | **Martin** | **Caracas** | **3786** | **Red** | **3** | **35,00** |
| **2301** | **23/02/11** | **101** | **Martin** | **Caracas** | **4011** | **Raqueta** | **6** | **65,00** |
| **2301** | **23/02/11** | **101** | **Martin** | **Caracas** | **9132** | **Paq-3** | **8** | **4,75** |
| **2302** | **25/02/11** | **107** | **Herman** | **Coro** | **5794** | **Paq-6** | **4** | **5,00** |
| **2303** | **27/02/11** | **110** | **Pedro** | **Maracay** | **4011** | **Raqueta** | **2** | **65,00** |
| **2303** | **27/02/11** | **110** | **Pedro** | **Maracay** | **3141** | **Funda** | **2** | **10,00** |

PRIMERA FORMA NORMAL

ÓRDENES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Id\_orden** | **Fecha** | **Id\_cliente** | **Nom\_cliente** | **Estado** |
| 2301 | 23/02/11 | 101 | Martin | Caracas |
| 2301 | 23/02/11 | 101 | Martin | Caracas |
| 2301 | 23/02/11 | 101 | Martin | Caracas |
| 2302 | 25/02/11 | 107 | Herman | Coro |
| 2303 | 27/02/11 | 110 | Pedro | Maracay |
| 2303 | 27/02/11 | 110 | Pedro | Maracay |

ARTÍCULOS

|  |  |  |  |
| --- | --- | --- | --- |
| **Num\_art** | **nom\_art** | **cant** | **Precio** |
| 3786 | Red | 3 | 35,00 |
| 4011 | Raqueta | 6 | 65,00 |
| 9132 | Paq-3 | 8 | 4,75 |
| 5794 | Paq-6 | 4 | 5,00 |
| 4011 | Raqueta | 2 | 65,00 |
| 3141 | Funda | 2 | 10,00 |

SEGUNDA FORMA NORMAL

ARTÍCULO-ORDEN

|  |  |  |
| --- | --- | --- |
| **Id\_orden** | **Num\_art** | **cant** |
| 2301 | 3786 | 3 |
| 2301 | 4011 | 6 |
| 2301 | 9132 | 8 |
| 2302 | 5794 | 4 |
| 2303 | 4011 | 2 |
| 2303 | 3141 | 2 |

ARTÍCULOS

|  |  |  |
| --- | --- | --- |
| **Num\_art** | **nom\_art** | **Precio** |
| 3786 | Red | 35,00 |
| 4011 | Raqueta | 65,00 |
| 9132 | Paq-3 | 4,75 |
| 5794 | Paq-6 | 5,00 |
| 3141 | Funda | 10,00 |

TERCERA FORMA NORMAL

ARTÍCULO-ORDEN

|  |  |  |
| --- | --- | --- |
| **Id\_orden** | **Fecha** | **Id\_cliente** |
| 2301 | 23/02/11 | 101 |
| 2302 | 25/02/11 | 107 |
| 2303 | 27/02/11 | 110 |

ARTÍCULO

|  |  |  |
| --- | --- | --- |
| **Id\_cliente** | **Nom\_cliente** | **Estado** |
| 101 | Martin | Caracas |
| 107 | Herman | Coro |
| 110 | Pedro | Maracay |

BOYCE-CODD