**A partir de la siguiente tabla realiza la normalización (desde 1FN hasta 3FN**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Num\_factura | Fecha | Artículo | Descripción | Precio | Cantidad | Proveedor | CiudadProveedor | PaisProveedor |
| 1 | 1/1/24 | PC1, Pantalla | I5, 17” | 600,60 | 1,1 | P1, P1 | Pequín, Pequín | China, China |
| 2 | 2/1/24 | PC3, Impresora, Pendrive | I7, láser,8GB | 700,100,12 | 1,1,8 | P1, P2, P2 | Pequín, Bombay, Bombay | China, India, India |

**1FN Separamos las celdas que contienen más de un dato. Atomicidad**

Detalle Factura

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Factura | Fecha | Articulo | Precio | Cantidad |
| 1 | 1/1/24 | 1 | 600 | 1 |
| 1 | 1/1/24 | 2 | 60 | 1 |
| 2 | 2/1/24 | 1 | 700 | 1 |
| 2 | 2/1/24 | 1 | 100 | 1 |
| 2 | 2/1/24 | 8 | 12 | 8 |

Artículos

|  |  |  |  |
| --- | --- | --- | --- |
| Articulo | Descripción | Precio | Proveedor |
| 1 | PC1 I5 | 600 | P1 |
| 2 | Pantalla 17’’ | 600 | P1 |
| 3 | PC3 I7 | 700 | P1 |
| 4 | Impresora Laser | 100 | P2 |
| 5 | Pendrive 8 GB | 12 | P2 |

Proveedor

|  |  |  |
| --- | --- | --- |
| Proveedor | Ciudad | País |
| P1 | Pequín | China |
| P2 | Bombay | India |

**2FN Rompemos la relación muchos a muchos.**

Cabecera Factura

|  |  |  |
| --- | --- | --- |
| Factura | Articulo | Fecha |
| 1 | 1 | 1/1/24 |
| 1 | 2 | 1/1/24 |
| 2 | 1 | 2/1/24 |
| 2 | 1 | 2/1/24 |
| 2 | 8 | 2/1/24 |

Detalle Factura

|  |  |  |  |
| --- | --- | --- | --- |
| Factura | Articulo | Precio | Cantidad |
| 1 | 1 | 600 | 1 |
| 1 | 2 | 60 | 1 |
| 2 | 1 | 700 | 1 |
| 2 | 1 | 100 | 1 |
| 2 | 8 | 12 | 8 |

**3FN Sacamos las dependencias Funcionales**

Proveedor

|  |  |
| --- | --- |
| Proveedor | Ciudad |
| P1 | Pequín |
| P2 | Bombay |

Ciudad

|  |  |
| --- | --- |
| Ciudad | País |
| Pequín | China |
| Bombay | India |

**Tablas**

Cabecera Factura

|  |  |  |
| --- | --- | --- |
| Factura | Articulo | Fecha |
| 1 | 1 | 1/1/24 |
| 1 | 2 | 1/1/24 |
| 2 | 1 | 2/1/24 |
| 2 | 1 | 2/1/24 |
| 2 | 8 | 2/1/24 |

Detalle Factura

|  |  |  |  |
| --- | --- | --- | --- |
| Factura | Articulo | Precio | Cantidad |
| 1 | 1 | 600 | 1 |
| 1 | 2 | 60 | 1 |
| 2 | 1 | 700 | 1 |
| 2 | 1 | 100 | 1 |
| 2 | 8 | 12 | 8 |

Artículos

|  |  |  |  |
| --- | --- | --- | --- |
| Articulo | Descripción | Precio | Proveedor |
| 1 | PC1 I5 | 600 | P1 |
| 2 | Pantalla 17’’ | 600 | P1 |
| 3 | PC3 I7 | 700 | P1 |
| 4 | Impresora Laser | 100 | P2 |
| 5 | Pendrive 8 GB | 12 | P2 |
|  |  |  |  |

Proveedor

|  |  |
| --- | --- |
| Proveedor | Ciudad |
| P1 | Pequín |
| P2 | Bombay |

Ciudad

|  |  |
| --- | --- |
| Ciudad | País |
| Pequín | China |
| Bombay | India |