**Class Exercise – 6.1**

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**Clemson/Assignment ID: normal1**

**Submission**: Save this Word document with your answers as a PDF file and upload the PDF file to Canvas.

**Normalization**

**Using the INVOICE table structure shown, answer the following questions:**

**INVOICE Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Sample Value** | **Sample Value** | **Sample Value** | **Sample Value** | **Sample Value** |
| INV\_NUM | 211347 | 211347 | 211347 | 211348 | 211349 |
| PROD\_NUM | AA-E3422QW | QD-300932X | RU-995748G | AA-E3422QW | GH-778345P |
| SALE\_DATE | 15-Jan-2018 | 15-Jan-2018 | 15-Jan-2018 | 15-Jan-2018 | 16-Jan-2018 |
| PROD\_LABEL | Rotary sander | 0.25-in. drill bit | Band saw | Rotary sander | Power drill |
| VEND\_CODE | 211 | 211 | 309 | 211 | 157 |
| VEND\_NAME | NeverFail, Inc. | NeverFail, Inc. | BeGood, Inc. | NeverFail, Inc. | ToughGo, Inc. |
| QUANT\_SOLD | 1 | 8 | 1 | 2 | 1 |
| PROD\_PRICE | $49.95 | $3.45 | $39.99 | $49.95 | $87.75 |

1. **Write the relational schema. You can assume that the table does not contain repeating groups and that any invoice number may reference more than one product. (*Hint*: This table uses a composite primary key.)**



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| INV\_NUM | PROD\_NUM | SALE\_DATE | PROD\_LABEL | VEND\_CODE | VEND\_NAME | QUANT\_SOLD | PROD\_PRICE |



1. **Identify any partial dependencies and generate the 2NF tables/schemas**

PROD\_NUM generates PROD\_LABEL, PROD\_PRICE, VEND\_CODE, VEND\_NAME

INV\_NUM generates SALE\_DATE

1. **Identify any transitive dependencies and generate the 3NF tables/schemas**

VEND\_CODE generates VEND\_NAME



|  |  |  |
| --- | --- | --- |
| INV\_NUM | PROD\_NUM | NUM\_SOLD |



|  |  |  |  |
| --- | --- | --- | --- |
| PROD\_NUM | PROD\_LABEL | PROD\_PRICE | VEND\_CODE |



|  |  |
| --- | --- |
| INV\_NUM | SALE\_DATE |



|  |  |
| --- | --- |
| VEND\_CODE | VEND\_NAME |