

**Task 6 [2 marks]**

Using the following INVOICE table structure, identify all functional dependences and decompose this table into a set of 3NF relations.

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-2009	15-JAN-2009	15-JAN-2009	15-JAN-2009	16-JAN-2009
PROD_DESCRIPTION	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.
NUMBER_SOLD	1	8	1	2	1
PROD_PRICE	\$49.95	\$3.45	\$39.99	\$49.95	\$87.75

**Assumptions**

1. There are no multivalued dependencies
2. Any invoice numbers may reference more than one product
3. Any given product is supplied by a single vendor, but a vendor can supply many products.

Vendor_table	VEND_Code	VEND_Name
	211	NeverFail, Inc.
	309	BeGood, Inc.
	157	ToughGo, Inc.

Purchase_table	INV_NUM	SALE_DATE
	211347	15-JAN-2009
	211348	15-JAN-2009
	211349	16-JAN-2009

Product_table	PROD_NUM	PROD_DESCRIPTION	VENDOR_CODE	NUMBER_SOLD	PROD_PRICE
	AA-E3422QW	Rotary Sander	211	2	\$49.95
	QD-300932X	0.25-in. drill bit	211	8	\$3.45
	RU-995748G	Band Saw	309	1	\$39.99
	GH-778345P-	Power Drill	157	1	\$87.75

Sale_table	INV_NUM	PROD_NUM
	211347	AA-E3422QW
	211347	QD-300932X
	211347	RU-995748G
	211348	AA-E3422QW
	211349	GH-778345P-