Sample Exam 2 questions

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1. Given the table:

   - T(<u>x</u>:varchar(1),y:varchar(10),z:int)

   Where the domain of y is {'item1','item2','item3'}, and the domain of x is {'a','b','c'}.

   Write a query in SQL that computes the following table:

	item1	item2	item3
a			
b			
c			

   where the values in each entry of the table are equal to the sum of z for the coresponding values of x,y given by the row/column respectively.

2. Given the following database:

```
Vehicles(manufacturer,model,color,miles,vin)
Vans(manufacturer,model,passengers,cylinders,ABS,price)
Cars(manufacturer,model,cylinders,ABS,price)
SUVs(manufacturer,model,passengers,cylinders,ABS,price)
```

write the following queries using relational algebra

(a) Find `vin` and `color` of all vehicles with `price` $\geq$ 15,000.

(b) List `manufacturer`, `model` and `price` of all the blue VANs with price under 12,000.

(c) Find the model number and price of all vehicles of any type made by "honda".

(d) Find thos manufacturers that make Cars but not Vans.

3. Write the queries from the previous exercise in SQL