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## CS554, Homework 2

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- **The Supplier/Part/Project (SPJ) Database**

- The **SPJ data model** consists of **4 relations**:

- **supplier((snum, sname, status, city)**: stores information on **suppliers**
- **part(pnum, pname, color, weight, city)**: stores information on **parts**
- **proj(jnum, jname, city)** stores information on **projects**
- **spj(snum, pnum, jnum, qty)**: stores information on **which supplier** supplies **what part** to **which project**

- The **meaning** of the **attributes** in **each relation** is as follows:

1. supplier(snum, sname, status, city)
  - snum = supplier number (key)
  - sname = supplier name
  - status = supplier status (how good he/she is)
  - city = location of the supplier

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2. part(pnum, pname, color, weight, city)
  - pnum = part number (key)
  - pname = part name
  - color = color of the part
  - weight = weight of the part
  - city = city where the part is made

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3. proj(jnum, jname, city)
  - jnum = project number (key)
  - jname = project name
  - city = city where the project takes place

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4. spj(snum, pnum, jnum, qty):
  - snum = supplier number (foreign key)
  - pnum = part number (foreign key)
  - jnum = project number (foreign key)
  - qty = quantity

The meaning of a tuple in the **spj** relation is: supplier `snum` supplies the part `pnum` to the project `jnum`.

- You can use the SQL query tool `/home/cs554001/bin/cs554-sql` to help you formulate the SQL queries
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- **Formulate the following queries in *SQL* on the *SPJ* Database**

1. Find name of suppliers who supplies to some project in Altanta with a red part

2. Find name of suppliers who supplies to at least 4 projects in Altanta with a red part

3. Find name of suppliers who do not supply to any project in Altanta

4. For each supplier and part, list (1) supplier name, (2) part name and (3) the (total) quantity of of the parts being shipped.

The answer has the following form:

sname	pname	total shipped
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Adams	Bolt	300
Adams	Cam	1000
Blake	Screw	700
Bond	Cam	100
...		

5. Find name of suppliers who has more shipments than the supplier 'Newton' (one tuple in relation `spj` represents one shipment)

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• **Turn in**

- Print this webpage out and write (**clearly**) the SQL query in the provided space and turn in in class on the due date.