Consider the following schema:  
Suppliers(*sid:* integer, *sname:* string, *address:* string)  
Parts(*pid:* integer, *pname:* string, *color:* string)  
Catalog(*sid:* integer, *pid:* integer, *price:* real)

The Catalog relation lists the prices charged for parts by Suppliers.

Write the following queries in ***Relational Algebra*** (RA), if the query cannot be expressed by RA write your arguments:

1. Find the names of suppliers who supply some red part.

2. Find the sids of suppliers who supply some red or green part.

3. Find the sids of suppliers who supply some red part or he/she is living in ***Al-Quds***.

4. Find the sids of suppliers who supply some red part and some green part.

5. Find pairs of sids such that the supplier with the first sid charges more for some part than the supplier with the second sid.

6. Find the pids of parts supplied by at least two different suppliers.

7. Find the pids of the most expensive supplied parts.

8. Find the pids of the most expensive supplied parts by ***Duaa Awwad***.

9. Find the *sname* of supplier who charge the maximum price for the part ***Olives Oil***.

10. Find the pids of the second most expensive supplied parts.