(1) Find the average speed of laptops costing over $2000.

(2) Find for each manufacturer the average screen size of its laptops.

(3) Find the manufacturers that make at least three different models of PC.

(4) Find for each PC manufacturer the most expensive PC that the manufacturer makes.

(5) Find the minimum price for each speed of PC above 800.

(6) For each manufacturer, find the average hard disk size of each PC made by the manufacturer who makes PCs and printers.

(7) For each manufacturer who makes color, ink-jet printers and either PCs or laptops, retrieve the maker’s name and the price of the cheapest PC or laptops (whichever is cheaper) made by the manufacturer.

(8) For each type of products (i.e. printer, laptop, and PC) that are made by at least three different manufacturers, retrieve (i) the total number of models of that type made by each manufacturer and (ii) their average price.

(9) Find all the manufacturers who make non-bubble printers and PCs such that (i) the average price of their printers is higher than the average price of all printers in the market and (ii) the average price of their PCs is less than the average price of all PCs in the market.

(10) For each type of products (i.e. PC, laptop, or printer), find the manufacturers who make the most different models of the type among all the manufacturers in the database.

(11) Retrieve all the cities that can reach ‘LA,’ either directly or through one other city.

(12) Find all the cities that can reach ‘SLC’ on either a direct or a number of indirect flights on the same day.

(13) Give the flight schedule of all the flights originated from ‘SLC.’ The flight schedule should include flight number, source city, and destination city. You should indicate all the direct, as well as indirect, flights (identified by flight numbers), in your answer.

(14) Find the shortest route, in terms of actual flying time, from ‘Kansas City’ to ‘SLC.’

(15) Find all the cities that can be reached, either directly or indirectly, from ‘Washington’ but cannot be reached, either directly or indirectly, from ‘Chicago.’

(16) Find the average salary at each level of (management of) crew members.

(17) Find the crew member, identified by name, who is the senior member (i.e. has the highest seniority value) among all the crew members at the same level of (management of) crew members. (You should show the level of each crew member along with her name.)

(18) Find all the crew members, identified by their IDs and names, and their managers (identified by crew IDs) who are managed by ‘Rob Anderson,’ with the exception of ‘Joe Young’ and those who are managed by ‘Joe Young.’

(19) Retrieve at each level of management up till Level 3 the average number of flying hours of crew members who have been assigned to at least one flight.

(20) Find, at each level of management with at least two crew members, the crew member, identified by name, who has been assigned more flights than any other crew members at the same level.

NOTE: (i) You must show the query result after each SQL query (statement). (ii) Each query must be formulated using a single SQL statement. (iii) For each hierarchical query, a city cannot reach itself; nor can it be reached from itself. (iv) This project assignment is worth 120 points.