**Question 1 ( SQL)**

There are two tables in a database of real estate owners. One has ownership information and the other has price information, in millions. An owner may own multiple houses, but a house will have only one owner.

Write a query to print the IDs of the owners who have at least 100 million worth of houses and own more than 1 house. The order of output does not matter. The result should be in the format: BUYER\_ID TOTAL\_WORTH

There are 2 tables: house, price.

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Description** |
| Table Name: house | | |
| BUYER\_ID | INTEGER | Unique buyer ID |
| HOUSE\_ID | STRING | Unique house ID |
| Table Name: price | | |
| HOUSE\_ID | STRING | Unique house ID. The primary key. |
| PRICE | INTEGER | The price of the house. |

|  |  |
| --- | --- |
| Table Name: house | |
| BUYER\_ID | HOUSE\_ID |
| 1 | 1001 |
| 2 | 1002 |
| 1 | 1003 |
| 3 | 1004 |
| Table Name: price | |
| HOUSE\_ID | PRICE |
| 1001 | 60 |
| 1002 | 120 |
| 1003 | 40 |
| 1004 | 90 |

**Sample Output**

1 100

Explanation

1 has a total of (60 + 40) = 100 million worth houses and is included in the results.

2 has 120 million worth houses but has only 1 house.

3 has 90 million worth of houses.

**Question 2**

**Question Description:**

A university maintains data on professors, departments, courses, and schedules in four tables:

DEPARTMENT, PROFESSOR, COURSE, and SCHEDULE.

Write a query to print the names of professors with the names of the courses they teach (or have taught) outside of their department. Each row in the results must be distinct (i.e., a professor teaching the same course over multiple semesters should only appear once), but the results can be in any order. Output should contain two columns: PROFESSOR.NAME, COURSE.NAME.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| PROFESSOR | | |
| ID | Integer | A professor’s ID in the inclusive range [1, 1000]. This is a primary key |
| NAME | String | A professor's name. This ﬁeld contains between 1 and 100 characters (inclusive). |
| DEPARTMENT\_ID | Integer | A professor's department ID. This is a foreign key to DEPARTMEN T.ID |
| SALARY | Integer | A professor's salary in the inclusive range [5000, 40000]. |
| DEPARTMENT | | |
| ID | Integer | A department ID in the inclusive range [1, 1000]. This is a primary key. |
| NAME | String | A department name. This field contains between 1 and 100 characters (inclusive) |

**Question Description:**

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| COURSE | | |
| ID | Integer | A course ID in the inclusive range [1, 1000]. This is a primary key. |
| NAME | String | A course name. This ﬁeld contains between 1 and 100 characters (inclusive). |
| DEPARTMENT\_ID | Integer | A course's department ID. This is a foreign key to DEPARTMENT\_ID. |
| CREDITS | Integer | The number of credits allocated to the course in the inclusive range [1, 10]. |
| SCHEDULE | | |
| PROFESSOR\_ID | Integer | The ID of the professor teaching the course. This is a foreign key to PROFESSOR\_ID. |
| COURSE\_ID | Integer | The course's ID number. This is a foreign key to COURSE\_ID. |
| SEMESTER | Integer | A semester ID in the inclusive range [1, 6]. |
| YEAR | Integer | A calendar year in the inclusive range [2000, 2017]. |

**Output Format:**

Each distinct row of results must contain the name of a professor followed by the name of a course they taught outside of their department in the format:

PROFESSOR.NAME COURSE.NAME