Sample tables

The following are the sample tables used throughout the book. These tables store information about course, batches and subject. There are six tables to store the required information by typical training center.

Let us first understand the meaning of each table.

The following are the required tables of our application.

|  |  |
| --- | --- |
| **Table Name** | **Description** |
| Courses | Contains the details of all the courses offered by the institute. |
| Faculty | Contains the details of the faculty members of the institute. |
| Course\_faculty | This table contains information regarding which faculty can handle which course. It also contains rating regarding how good a faculty member is in handling a particular course. The rating is based on previous experience of the faulty member with that course. |
| Batches | Contains the information about all the batches. It contains information about all the batches that started and completed, on going and scheduled but not yet started. |
| Students | Contains information about all the students. Each student is assigned a new roll number whenever he/she joins a new course. |
| Payments | Information about all the payments made by students. A single student may pay course fee in multiple installments for a single course. |

**Table 1:** Sample tables.

The following few tables will give the list of columns of each of the table given in table 1.

COURSES Table

Contains information related to each course. Each course is given a unique code called course code.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| CCODE | VARCHAR2(5) | Course Code. This is the primary key of the table. |
| NAME | VARCHAR(30) | Name of the course. |
| DURATION | NUMBER(3) | Duration of the course in no. of working days. |
| FEE | NUMBER(5) | Course fee of the course. |
| PREREQUISITE | VARCHAR2(100) | Prerequisite knowledge to do the course. |

The following are the required constraints of COURSES table.

* CCODE is primary key.
* FEE must be greater than or equal to 0.
* DURATION must be greater than or equal to 0.

FACULTY Table

Contains information about all the faculty members. Each faculty member is given a code called as FACCODE.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| FACCODE | VARCHAR2(5) | Faculty code. This is the primary key of the table. |
| NAME | VARCHAR2(30) | Name of the faculty. |
| QUAL | VARCHAR2(30) | Qualification of the faculty member. |
| EXP | VARCHAR2(100) | Experience of the faculty member. |

The following are the constraints of FACULTY table.

* FACCODE is primary key.

COURSE\_FACULTY table

Contains information regarding which faculty member can take which course. A single faculty member may be capable of handling multiple courses. However, each member is given a grade depending on his expertise in handling the subject. The grade will be wither A, B or C.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| FACCODE | VARCHAR2(5) | Faculty code. |
| CCODE | VARCHAR2(5) | Course the faculty can handle. |
| GRADE | CHAR(1) | Rating of faculty’s ability to handle this particular code.  A – Very good, B- Good,  C- Average. |

The following are the constraints of the table.

* FACCODE is a foreign key referencing FACCODE column of FACULTY table.
* CCODE is a foreign key referencing CCODE column of COURSES table.
* Primary key is consisting of FACCODE and CCODE.
* GRADE column must contain either A, B or C.

Batches table

Contains information about all the batches. These batches include batches that were completed, that are currently running and that are scheduled but yet to start.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| BCODE | VARCHAR2(5) | Code that is assigned to each batch. This is the primary key of the table. |
| CCODE | VARCHAR2(5) | Course code of the course of this batch. This is a foreign key referencing CCODE of COURSES table. |
| FACCODE | VARCHAR2(5) | Code of the faculty member taking this batch. |
| STDATE | DATE | Date on which the batch has started or scheduled to start if batch has not yet started. |
| ENDDATE | DATE | Date on which the batch has completed. If batch is not completed this will be null. |
| TIMING | NUMBER(1) | Number indicating the timing of the batch. 1- morning, 2 – after noon, and 3-evening. |

The following are the required constraints of this table.

* BCODE is the primary key.
* CCODE is a foreign key referencing CCODE of COURSES table.
* FACCODE is a foreign key referencing FACCODE of FACULTY table.
* STDATA must be <= ENDDATE
* TIMING column must be 1, 2 or 3.

STUDENTS table

Contains information about all the students of the institute. Each student is given a roll number. Roll number will be allotted to each student of each batch.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| ROLLNO | NUMBER(5) | Roll number that is assigned to each student. This is the primary key of the table. |
| BCODE | VARCHAR2(5) | Code of the batch to which student belongs. This is the foreign key referencing BCODE of BATCHES table. |
| NAME | VARCHAR2(30) | Name of the student. |
| GENDER | CHAR(1) | Gender of the student. M for male and F for female. |
| DJ | DATE | Date on which the student has joined. |
| PHONE | VARCHAR2(10) | Contact number of the student. |
| EMAIL | VARCHAR2(30) | Email address of the student. |

The following are the constraints of the table.

* ROLLNO is the primary key.
* BCODE is a foreign key referencing BCODE of BATCHES table.
* GENDER may be either M or F.

PAYMENTS table

Contains information about all the payment made by students of all bathes.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| ROLLNO | NUMBER(5) | Roll number of the student paying the fee. |
| DP | DATE | Date on which the amount is paid. |
| AMOUNT | NUMBER(5) | The amount paid by student. |