Session 3: Understanding Constraints and their types

Estimated Completion Time: 60 Minutes

In the previous hands on you have already created all table structures. Now it is time to apply various integrity constraints on those tables which are listed as follows, but the constraint from client is that all queries must be written using only ANSI SQL Syntax.

Exercise 3.1

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: Understanding how to apply various integrity constraints

Problem Statement:

Apply all Integrity constraint as given below:

a. Reg_Number – Primary Key - Varchar
b. Student_Name - Varchar(30) not null
c. Date_of_Joining-Date – Default value system date.

Student_Info			
Field	Description	Type	Size
Reg_Number	Register Number for every student	Varchar	20
Student_Name	Name of student	Varchar	30
Branch	Name of branch	Varchar	30
Contact_Number	Contact number of student	Varchar	30
Date_of_Birth	Date of birth of student	Varchar	

Date_of_Joining	Date of joining of student	Varchar	

a. Subject_Code- Primarykey-varchar2(10)

b. Subject_Name- Varchar, not null

c. Weightage- Number(3), not null

Subject_Master			
Field	Description	Type	Size
Subject_Code	Code given for subject	Varchar	20
Subject_Name	Name of subject	Varchar	20
Weightage	Weisghtage of subject	Number	3

a. Reg_Number-Foreignkey (Student_Info)-Varchar

b. Subject_Code-Foreignkey (Subject_Master)-varchar2(10)

c. Semester-Number(3) not null

d. Marks-Number (3) default value 0

Student_Marks			
Field	Description	Type	Size
Reg_Number	Registered number of student	Varchar	20
Subject Code	Code given for subject	Varchar	20
Semester	Semester	Number	3
Marks	Student Marks	Number	3

a. Reg_Number-Foreignkey-Varchar

b. Semester-Number(3) Not null

c. GPA-Number (5,3)- Not Null

d. Is_Eligible_Scholarship char(3) Default value is Yes

NOTE: Reg_Number and Semester Number should be composite primary keys.

Student_Result			
Field	Description	Type	Size
Reg Number	Registered number of student	Varchar	20
Semester	Semester	Number	3
GPA	Grade Point Average of student	Number	(5,3)
Is_Eligible_Scholarship	Eligibility of student for scholarship	Char	3

Deliverables Expected:

Data integrity across all table structures.

Exercise 3.2

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: Disable keys

Problem Statement:

Problem # 2 working with constraints:

a) Create a constraint which does not allow repeated entries of subjects having the same Subject Name.
b) Create a constraint which does not allow two students having the same Contact Number.
c) Create a constraint which does not allow date of birth after date of joining.
d) Create a constraint that does not allow value greater than 100 be inserted into Marks.
e) Create a constraint which mandates GPA values to be less than or equal to 10.
f) Create a constraint which mandates that value for Is_Eligible_Scholarship is either 'Y' or 'N'.