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**Post Assessment**

Database & Storage Mechanism: SQL Assignment

**SQL Assignment A**

1. Create the table PROGRAMMER with the given information using SQL CREATE TABLE commands:

|  |  |
| --- | --- |
| **Attribute** | **Description/Data type/Constraint** |
| EmpNo | Employee’s Unique ID. Max 5 characters should be numeric |
| ProjId | Project in which programmer participates. Max 3 characters should be numeric |
| LastName | Surname of employee. Max 30 characters Required. |
| FirstName | Employee’s first name. Max 30 characters |
| HireDate | Date on which employee was hired. Date data type |
| Language | Programming Language used by programmer. Max 15  characters |
| TaskNo | Number of the rask associated with the project. Numeric column, max 2 digits |
| Privilege | Type of privilege given to programmer. Max 25 characters |

1. Insert the following data into the PROGRAMMER Table.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EmpNo** | **LastName** | **FirstName** | **Hiredate** | **ProjId** | **Language** | **TaskNo** | **Privilege** |
| 201 | Gupta | Saurav | 1/1/95 | NPR | VB | 52 | Secret |
| 390 | Ghosh | Pinky | 1/5/93 | KCW | JAVA | 11 | TopSecret |
| 789 | Agarwal | Praveen | 8/3/98 | RNC | VB | 11 | Secret |
| 134 | Chaudhury | Supriyo | 7/15/95 | TIPPS | C++ | 52 | Secret |
| 896 | Jha | Ranjit | 6/15/97 | KCW | JAVA | 10 | TopSecret |
| 345 | John | Peter | 11/15/99 | TIPPS | JAVA | 52 |  |
| 563 | Anderson | Andy | 08/15/94 | NITTS | C++ | 89 | Confidential |

1. Write SQL queries to:
2. Saurav Gupta is assigned a different project with id NITTS and he would work with C++ now. Update this change in the PROGRAMMER table.
3. Supriyo Chaudhury has resigned his job. Incorporate this in the table PROGRAMMER.
4. The column TaskNo in the PROGRAMMER table is no longer needed. Delete the column.
5. Create Table Department:

|  |  |
| --- | --- |
| **Attribute**  **Name** | **Description/Data type/Constraint** |
| DeptNo | Department number is Unique ID. |
| Dname | Department name of a particular department, Dname should not be null. |
| Loc | Location of the department, loc should not be null. |

5. In DEPARTMENT Table, increase the field width of DNAME from 20 to 50

6. Insert the following data into the Department Table:

|  |  |  |
| --- | --- | --- |
| **DEPTNO** | **DNAME** | **LOC** |
| 10 | ACCOUNTS | NEWYORK |
| 20 | MARKETING | CHICAGO |
| 30 | SALES | ATLANTA |
| 40 | RESEARCH | OHIO |

7. Create Table Employee:

|  |  |
| --- | --- |
| **Attribute Name** | **Description/Data type/Constraint** |
| EmpNo | Employee number is Primary Key. |
| Ename | Name of the employee, Cannot be null |
| Job | Cannot be null, The job of the employee can be  MANAGER, CLERK, PRESIDENT |
| Sal | Cannot be null |
| Hiredate | Cannot be null |
| Deptno | Should reference Department Table, Deptno |

8. In EMPLOYEE table add a new attribute MGR(Manager ID) consisting 4 Characters.

9. Insert the following DATA into the Employee Table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **EMPNO** | **ENAME** | **JOB** | **SAL** | **HIREDATE** | **DEPTNO** |
| 7001 | JAMES | CLERK | 3000 | 6/5/2005 | 10 |
| 7002 | MASON | PRESIDENT | 10000 | 6/6/2005 | 20 |
| 7003 | CLARK | MANAGER | 5000 | 6/5/2004 | 20 |
| 7004 | JOHN | MANAGER | 6000 | 6/8/2005 | 10 |
| 7005 | BLAKE | CLERK | 3500 | 6/9/2005 | 30 |

10. Create Table Grade:

|  |  |
| --- | --- |
| **Attribute Name** | **Description/Data type/Constraint** |
| GradeNo | Grade number is  Primary Key. |
| Hi\_sal | Cannot be null |
| Lo\_sal | Cannot be null |

11. Drop the column Lo\_sal from Grade Table.

12. Add column Low\_sal in Grade Table.

13. Insert the following data into the table:

|  |  |  |
| --- | --- | --- |
| **GRADE\_NO** | **HI\_SAL** | **LO\_SAL** |
| 1 | 2000 | 500 |
| 2 | 3500 | 2100 |
| 3 | 6000 | 3600 |
| 4 | 15000 | 6100 |

14. Create table EMPLOYEE\_BACK from employee table

15. Increase the salary of JAMES from 3000 to 3500

16. Increase the salary of all MANAGER by 1000

17. Decrease the salary of DEPTNO 10 by 100

18. Add a new field COMM in EMPLOYEE table

19. Initialize the value of COMM to zero in EMPLOYEE table.

20. Remove the employees who have joined before 6-Jun-2005

21. Remove employees whose salary is less than 3000

22. List all employees who are working in department 10.

23. List all employees of department 10 and are MANAGER

24. List all employees whose salary is between 3000 and 5000

25. List all employees who have joined after 10th July 2005

26. List all employees who are MANAGER or PRESIDENT.

27. List all employees who are in deptno 10 or 20 and who are MANAGERS.

28. Update the commission of employees in deptno 10 to 500.

29. List all employees whose commission is null.

30. List the employees who are not a PRESIDENT or MANAGER.

31. List all employees whose name begin with J.

32. List all employees whose name consists of A.

33. List the employee sal, comm. and bonus (Bonus is sal+comm.).

34.Display the salary of employees of MANAGER increased by 10%. The output should display salary and increased salary.

35.Update the salary of MANAGER by 10%.

36.Display the employees in the desscending order of names.

37. Display the employees in the ascending order of deptno, Job.

38. Display all the employee names with the first letter in capitals and all the other characters in lower case.

39. Display all the employee names in lower case.

40. Display the employee name and the position of letter A in each name.

41.Extract the last 3 characters in employee name and display them.

42.Display the employee name and the length of the name.

43.Display the current system date and time.

44.Display the employee name and the date when each employee completes 5 years in the company.

45.Display the last day of the month for the current system date.

46.Display the last day of the month for all the hiredates in EMPLOYEE table.

47. Display the employee name, hiredate and the total months of experience as on 8th June 2008.

48. Display the employee name, sal and comm. for all employees. Employees having commission as null should be displayed as 99.

49. Drop table employee EMPLOYEE\_BACK.

50. Display the number of employees in department 10.

51. Display the number of employees in each department.

52. Display the number of employees in each department job wise.

53. Display the total number of employees in the table.

54. Display the employee earning the highest salary.

55. Display the employee earning the highest commission.

56. Display the employee earning the lowest salary.

57. Display the average salary for each department.

58. Display distinct jobs in the table.

59. Display the deptno where the number of employees is greater than 3.

60. Display the total salary department wise.

61. Display the employee name, job and rank. If the job is PRESIDENT then rank is 1, If the job is MANAGER then rank is 2, if the job is CLERK then the rank is 3.

62. Display the job and total salary for each job having number of employees greater than 5.

63. There is a proposed deduction of 5000 from every employee’s salary. Check for the balance salary and display the appropriate message. If the deduction causes value to be less than zero display “Insufficient for Deduction”, if greater than zero “Can be Deducted”.

64. Create a table EMPLOYEE\_DUP from EMPLOYEE. The new table should only have the structure and should not have any data values.

65. List the employees who are in the same department as that of CLARK.

66. List the employees who drawing the same salary as that of BLAKE.

67. List the employees whose salary is greater than the average salary.

68. List the employees who are located in NEWYORK or CHICAGO.

69. List the employees whose salary is greater than the salary of BLAKE or CLARK.

70. Increase the salary of employees by 10% , who are located in CHICAGO.

71. Delete the employees whose rowid is greater than the rowed of CLARK.

72. List the employees whose salary is greater than the average salary of his own department.

73. List the employees who are not in the same department as that of BLAKE or CLARK.

74. Display the department number, name and location for the department for which there exists employees.

75. Create a view emp\_vw consisting of ename, sal, job of employees in department 10.

76. Create a view emp\_vw1 consisting of employee names, sal and job of employees located in CHICAGO.

77. Create a view emp\_dept consisting of employee names, job, sal , department name and location.

78. Create a sequence emp\_seq.

79. Create a sequence emp\_seq1 starting with 1 and increment it by 1.

80. Implement the sequence in a table.

**SQL Assignment B**

Create following tables and insert 10 records into each of them:

1. **Clients\_Master**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Attributes** |
| CLIENT\_NO | VARCHAR(6) | Primary Key /first letter must Start with ‘C’ |
| NAME | VARCHAR(20) | Not Null |
| ADDRESS1 | VARCHAR(30) |  |
| ADDRESS2 | VARCHAR(30) |  |
| CITY | VARCHAR(15) |  |
| STATE | VARCHAR(15) |  |
| PINCODE | NUMBER(6) |  |
| BAL\_DUE | NUMBER(10,2) |  |

1. **Products\_Master Table:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Attributes** |
| PRODUCT\_NO | VARCHAR(6) | Primary Key /first letter must start with ‘P’ |
| DESCRIPTION | VARCHAR(15) | Not Null |
| PROFIT\_PERCENT | NUMBER(4,2) | Not Null |
| UNIT\_MEASURE | VARCHAR(10) | Not Null |
| QTY\_ON\_HAND | NUMBER(8) | Not Null |
| REORDER\_LVL | NUMBER(8) | Not Null |
| SELL\_PRICE | NUMBER(8,2) | Not Null cannot be 0 |
| COST\_PRICE | NUMBER(8,2) | Not Null, cannot be 0 |

1. **Salesmen\_Master Table:**

|  |  |  |
| --- | --- | --- |
| Name | Type | Attributes |
| SALESMAN\_NO | VARCHAR(6) | Primary Key / first letter must start With ‘S’ |
| SALESMAN\_NAME | VARCHAR(20) | Not Null |
| ADDRESS1 | VARCHAR(30) | Not Null |
| ADDRESS2 | VARCHAR(30) |  |
| CITY | VARCHAR(20) |  |
| PINCODE | VARCHAR(6) |  |
| STATE | VARCHAR(20) |  |
| SAL\_AMT | NUMBER(8,2) | Not Null, cannot be 0 |
| TGT\_TO\_GET | NUMBER(6,2) | Not Null, cannot be 0 |
| YTD\_SALES | NUMBER(6,2) | Not Null |
| REMARKS | VARCHAR(60) |  |

1. **Sales\_Orders Table:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Attributes** |
| S\_ORDER\_NO | VARCHAR(6) | Primary Key / first letter must start With ‘O’ |
| S\_ORDER\_DATE | DATE |  |
| CLIENT\_NO | VARCHAR(6) | Foreign Key references CLIENT\_NO of Client\_Master table |
| DELY\_ADDR | VARCHAR(25) |  |
| SALESMAN\_NO | VARCHAR(6) | Foreign Key references SALESMAN\_NO Of Salesmen\_Master table |
| DELY\_TYPE | CHAR(1) | delivery : part(P)/full(F),Default ‘F’ |
| BILLED\_YN | CHAR(1) |  |
| DELY\_DATE | DATE | cannot be less than s\_order\_date |
| ORDER\_STATUS | VARCHAR(10) | values (‘In Process’,’Fulfilled’, ‘BackOrder’,’Canceled’) |

1. **Sales\_Orders\_Details Table:**

|  |  |  |
| --- | --- | --- |
| Name | Type | Attributes |
| S\_ORDER\_NO | VARCHAR(6) | Primary Key /Foreign Key references S\_ORDER\_NO of Sales\_Orders table |
| PRODUCT\_NO | VARCHAR(6) | Primary Key / Foreign Key references PRODUCT\_NO of Products\_Master table |
| QTY\_ORDERED | NUMBER(8) |  |
| QTY\_DISP | NUMBER(8) |  |
| PRODUCT\_RATE | NUMBER(10,2) |  |

1. **Challan\_Header Table:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Attributes** |
| CHALLAN\_NO | VARCHAR(6) | Primary Key / first two letters must Start with ‘CH’ |
| S\_ORDER\_NO | VARCHAR(6) | Foreign Key references S\_ORDER\_NO of Sales\_Orders table |
| CHALLAN\_DATE | DATE | Not Null |
| BILLED\_YN | CHAR(1) | values(‘Y’,’N’),Default ‘N’ |

1. **Challan\_Details Table:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Attributes** |
| CHALLAN\_NO | VARCHAR(6) | Primary Key/Foreign Key references CHALLAN\_NO of Challana\_Header table |
| PRODUCT\_NO | VARCHAR(6) | Primary Key / Foreign Key references PRODUCT\_NO of Products\_Master table |
| QTY\_DISP | NUMBER(4,2) | Not Null |