CDAC Mumbai
PG-DAC Mar22 Batch (Juhu & Kharghar)
Module 3: Algorithms & Data Structures

Time : 2hrs Marks : 30

Instructions:- This exam consists of 2 sections. All questions are compulsory. Total time for this test is 90 minutes.

Connect to MySQL database with your respective username and password.

Section I (30 marks)

1. Create table DEPT with the following structure:-

DEPTNO	int(2)
DNAME	varchar(15)
LOC	varchar(10)

Insert the following rows into the DEPT table:-

10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

2. Create table EMP with the following structure:-

EMPNO	int(4)
ENAME	varchar(10)
JOB	varchar(9)
HIREDATE	date
SAL	float(7,2)
COMM	float(7,2)
DEPTNO	int(2)

Insert the following rows into the EMP table:-

7839	KING	MANAGER	1991-11-17	5000	NULL	10
7698	BLAKE	CLERK	1981-05-01	2850	NULL	30
7782	CLARK	MANAGER	1981-06-09	2450	NULL	10
7566	JONES	CLERK	1981-04-02	2975	NULL	20
7654	MARTIN	SALESMAN	1981-09-28	1250	1400	30
7499	ALLEN	SALESMAN	1981-02-20	1600	300	30

Write SELECT statements to achieve the following:-

3. Display all the employees where SAL between 2500 and 5000 (inclusive of both).
4. Display all the ENAMEs in descending order of ENAME.
5. Display all the JOBs in lowercase.
6. Display the ENAMEs and the lengths of the ENAMEs.

7. Display the DEPTNO and the count of employees who belong to that DEPTNO .
8. Display the DNAMEs and the ENAMEs who belong to that DNAME.
9. Display the position at which the string ‘AR’ occurs in the ename.
10. Display the HRA for each employee given that HRA is 20% of SAL.

Section II (10 marks)

1. Write a stored procedure by the name of PROC1 that accepts two varchar strings as parameters. Your procedure should then determine if the first varchar string exists inside the varchar string. For example, if string1 = ‘DAC’ and string2 = ‘CDAC, then string1 exists inside string2. The stored procedure should insert the appropriate message into a suitable TEMPP output table. Calling program for the stored procedure need not be written.

2. Create a stored function by the name of FUNC1 to take three parameters, the sides of a triangle. The function should return a Boolean value:- TRUE if the triangle is valid, FALSE otherwise. A triangle is valid if the length of each side is less than the sum of the lengths of the other two sides. Check if the dimensions entered can form a valid triangle. Calling program for the stored function need not be written.