

## LAB ASSIGNMENT

**Note: Submit online lab record to email- [cdassignments@gitam.edu](mailto:cdassignments@gitam.edu)**

**Last date to submit is 20-Dec-2021**

**(ALL QUESTIONS ARE COMPULSORY, EACH QUESTION CARRIES 10MARKS)**

### MCA FIRST YEAR

#### SPDCA 111 – C AND DATA STRUCTURES LAB

Using C-Language write an algorithm, program and output for the following:

- 1) To perform the following: i) Print N Prime Numbers ii) find Armstrong Number
- 2) To print Fibonacci Series that uses both recursive and non-recursive functions.
- 3) To reverse a given String using Pointer
- 4) Use functions to perform the following operations:
  - i) Creation ii) Insertion iii) Deletion iv) Traversal on double linked list
- 5) To sort a given list of integers in ascending order using pointers
  - i) Quick sort ii) Merge sort

#### SPDCA 112 – DBMS LAB

1. Write a Cursor( PL/SQL code) to display the Employee\_name, DateofBirth, Designation whose basic salary is greater than 10000, if not found then show the proper error message. (Use Exception handling)  
Table : Employee(EmpId, EName, DOJ, DOB, Salary, Address)
2. i) From the following tables, write a SQL query to find the Suppliers and consumers who live in same city. Return consumer name, Product name and Product-supplier city.

**Table 1:**

**Suppliers**(supplier\_id ,Product name, Price, city, commission)

**Table 2:**

**consumers** (consumer\_id, consumer\_name, city, grade, supplier\_id)

- ii) creates a view that selects every product in the "Suppliers" table with a price higher than the average price

3. i) From the following table, write a SQL query to find those customers who served by a salesperson and the salesperson works at the commission in the range 12% to 14% (Begin and end values are included.). Return cust\_name AS "Customer", city AS "City". [Go to the editor](#)

**Table 1: salesman** (salesman\_id, name, city, commission )

**Table2 : customer** (customer\_id, cust\_name, city, grade, salesman\_id )

ii) creates a **FOREIGN KEY** on the "salesman\_id" column when the "customer" table is created

4. Write a PL/SQL code that accepts employee ID of an employee from Employee, fetch his/her leaves of previous three months in from the table, calculate his leaves percentage and upate the same in the table.

Table : Employee(EmpID, EName, Designation, Leave dates, Leave Percentatge)

5. Create a Trigger in PL/SQL which will work before deletion or updation in employee\_master table and inserts a duplicate copy of the record in another table for future reference.

Table : Employee\_Master(EmpId, EName, DOJ, DOB, Salary, Address)

Emp\_Backup (EmpId, EName, DOJ, DOB, Salary, DateofOperation)

## MCA SECOND YEAR

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### **SPDCA 211 - OPERATING SYSTEMS LAB**

1. Write 10 some basic Linux commands. Document the syntax and semantics of those commands.
2. Write a shell script that searches for a given file in a directory
3. Write a shell script that accepts a name from the user and displays whether it is a file, directory or something else.
4. Write a shell script that removes duplicate lines from a file
5. Write C programs that illustrate first come first serve scheduling algorithm.

### **SPDCA 212 – JAVA LAB**

Write a Java program for the following:

- 1.a) Program to display prime numbers from 1 to n b) Find longest Palindrome Substring within a string
- 2.a)Find the second most frequent character in a given string b) Reverse a string using recursion
- 3.a) Find first non-repeating character from a stream of characters b) Count and print all the duplicates in the input string
- 4.a) Create a Date object using the Calendar class. b) To check whether a string is a valid password.

Password rules:

A password must have at least ten characters. A password consists of only letters and digits. A password must contain at least two digits.

- 5.a) To find a specified element in a given sorted array of elements using Jump Search.
- 5.b) Write a Java program to demonstrate Multiple inheritance, where we have two interfaces : bike and Cycle. bike interface consists of the attribute speed. The method is totalDistance(). Cycle interface consists of the attribute distance() and the method speed(). Both these interfaces are implemented by the class TwoWheeler.

## MCA THIRD YEAR

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### SPDCA 311 - AIT LAB

1. To create a GITAM ADMISSION FORM using html5 .
2. To create an html page for self Resume with different **types of frames** such as
  - floating frame(it should contain your name (text box), address (multiline text box)),
  - navigation frame (it should contain gender (radio button male, female), skill sets known (check boxes – c,c++,java,C#etc)) &
  - mixed frame (it should contain extra-curricular activities (text box), nationality (combo box) ,submit and reset button.

Procedure- Create an html page named as mixedframe.html. Divide the page into 2 columns of 25% and 75% size. In 25% display the image file and divide the 75% into 2 rows(50% and 50%). In the first 50% display the other images - Create an html page named as navigationframe.html. divide the page into 2 columns of 25%, 75% size. In 25% size call the hyperlink file and make the page to be get displayed on the other column when the link is clicked -Create an html page named as floatingframe.html. In this file include a paragraph to explain floating frame and in floating frame include any html file created in above experiment.

- 3.a Write a JavaScript function that checks whether a passed string is palindrome or not?
- 3.b. Write a JavaScript function that generates all combinations of a string.
4. Write a JavaScript program which accept a string as input and swap the case of each character. For example if you input 'The Quick Brown Fox' the output should be 'tHE qUICK bROWN fOX'.

5.a. To write a Javascript program to define a user defined function for sorting the values in an array. Use HTML5 for user interface.

5.b. Write a jsp servlet program to implement arithmetic operations