# MEPCO SHCLENK ENGINEERING COLLEGE
# 19GE151 - COMPUTER PROGRAMMING LABORATORY
# 2021-22 - ODD SEMESTER
# LAB CYCLE SHEET QUESTIONS

## LAB HANDLING FACULTIES
## DR. P THENDRAL
## MRS. SWATHIKA P

| S.No. | GENERAL PROBLEMS |
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| 1 | Write a program to print your name. |
| 2 | Write a program to print the following string<br>"1\ New Delhi is the capital of India<br>2\ Mahatma Gandhi is the Father of India" |
| 3 | Print the following pattern in the console<br>*<br>**<br>***<br>****<br>***** |
| 4 | Find simple interest for a period of 5 years with a interest rate of 8%. Get the principal amount from the user. Use #define macro to store interest rate and period. |
| 5 | Write a program to get a character from the user and print its ASCII Value. |
| 6 | Write a program to get two integers from user and perform arithmetic operations such as Addition, Subtraction, Multiplication, Division and Modulo and display the results. Use necessary floating point type casting wherever it is necessary. |
| 7 | Write a program to get a Mark from the user and find its grades using if - elseif as per the following norms<br>>=90 and <= 100 --> 'S' Grade<br>>=80 and <90 --> 'A' Grade<br>>=70 and <80 --> 'B' Grade<br>>=60 and <70 --> 'C' Grade<br>>=50 and <60 --> 'D' Grade<br><50 --> 'F' Grade |
| 8 | Write a program to print numbers in word format. For example if 5 is input, then FIVE should be printed. If the input is 238 then ouput is TWO THREE EIGHT |
| 9 | Write a program to find Smallest and Largest of Three numbers. Get three numbers from the user using Scanf |
| 10 | Write a program to swap two numbers using a third variable |
| 11 | Write a program to find second biggest number in an array of integers without sorting the array |

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| 12 | Write a program to swap two numbers without using a third variable. |
| 13 | Write a program to convert a decimal number to Binary Number |
| 14 | Write a program to get an integer from the user and find whether the number is odd or even |
| 15 | Write a program to print the following pattenr for example if four is given four rows shhould be there and in each row 1 to 4 should be printed each seperated by a space. The input value should not exceed 9<br>1<br>1 2<br>1 2 3<br>1 2 3 4 |
| 16 | Write a program to find sum of digits of an integer. For example if 457 is the input number then the sum of individual digits is 16 (4 + 5 + 7) |
| 17 | Write a program to find sum of digits of a number to single digit. For example if number is 1999, then the sum of digits is 28 again its sum is 10 and again its sum is 1 which is a single digit. |
| 18 | Write a program to find whether a number is Palindrome or not. For example number 4554 is a palindrome because the reversed number is also the same number |
| 19 | Write a program to find factorial of number using itereation. If the input number is 5, then 5! Is equal to 120 (1*2*3*4*5) |
| 20 | Write a program to get an integer from the user and count its digits. For example if the input number is 32221, then number of digits is 5. |
| 21 | Write a program to get an integer from the user and reverse the number. If the input number is 4313, then the reveresed number is 3134 |
| 22 | Write a program to get an integer from the user and find whether the number is Armstrong number or not. For example number 371 is an amstrong number because sum of the cubes of individual digits of number is equal to the number itself. In 371 sum of 3^3 + 7^3 + 1^3 = 371 |
| 23 | Write a program to get an integer from the user and find whether the number is Prime or not. A Prime number is a positive integer which can be divided whole(with 0 remainder) by itself and by 1, moreover 2 is the only even prime number. Examples of prime numbers are 11, 29, 47, 59 |
| 24 | Write a program to find all prime numbers in a range of numbers. Get the range values from the user. For example if the range is 100 to 200, then all prime numbers from 100 to 200 should be printed. |
| 25 | Write a program to print all Armstrong numbers in a range of numbers. Get the range values from the user |
| 26 | Write a program to circularly rotate number and display them. For example if the number is 3214, then the cirucularly rotated numbers are 2143, 1432, 4321,3214. |
| 27 | Write a program to find whether a given number is circular prime or not. For example number 3779 is a circular prime because the rotation of numbers 3779, 7793, 7937, 9377 all are prime numbers |
| 28 | Write a program to print all Circular Prime Numbers in a range. For example if the range is from 1000 to 50000, then all Circular prime numbers from 1000 to 50000 should be printed |
| 29 | Write a program to find Least Common Multiple(LCM) of two numbers. For example LCM of 6 and 8 is Multipliers of 6 are 6 , 12, 18, 24, 30, 36. Multipliers of 8 are 8, 16, 24, 32, 40, 48. Then LCM of 6 and 8 is 24 |

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| 30 | Write a program to find Greatest Common Divisor(GCD) of two numbers. GCD is Greatest Common Divisor, for example, GCD of 21 and 49 is 7 |
| 31 | Write a program to find summation of first N numbers. Get N as input from the user. If user enters N as 21, then you have to sum from 1 to 21 |
| 32 | Write a program to print Multiplication table. |
| 33 | Write a program to print first N fibonacci numbers. Get N from the user |
| 34 | Write a program to print sum of first N fibonacci numbers. Get N from the user |
| | **STRING PROGRAMS** |
| 35 | Write a program to reverese a strring |
| 36 | Write a program to find whether a string is Palindrome or not? |
| 37 | Write program to count number of vowels present in a string |
| 38 | Write a program to find whether a substring is present in a string. |
| 39 | Write a program to find the count of substrings present in a string |
| 40 | Write a program to find the count of Numerical characters present in a string |
| 41 | Write a program to find length of the string using string library function |
| 42 | Write a program to compare two strins case insensitive using string library function |
| 43 | Write a program copy smaller string on bigger string using string library function |
| 44 | Write a program to concatenate two strings using string library function |
| | **MATRIX PROBLEMS** |
| 45 | Get two matrices from the user and find its summation and display the result matrix |
| 46 | Get two matrices from the user and perform Multiplication and display the result matrix |
| 47 | In a two dimensional matrix of intergers, search for an integer. |
| 48 | In a two dimensional matrix of intergers, find number of occurances of an integer |
| 49 | Find all prime numbers present in an integer Matrix |
| 50 | Perform summation Diagonals of an integer matrix |
| 51 | Perform summation of all individual rows and individual columns |
| | **ARRAY PROBLEMS** |
| 52 | Write a program to search a number in an array of integers |
| 53 | Write a program to search a character in an array of characters. |
| 54 | Write a progam to sum up the elemnts present in the even indices of an integer array |
| 55 | Write a program to replace all the negative integer into positive integer, for exampe if the value -5 , it should be changed to 5 |
| 56 | Write a program to store all the prime numbers present in a given range in an array. |
| 57 | Write a program to find out whether an integer array has duplicate numbers or not. |
| 58 | Write a program to find the count of even integers present in an array of integers |
| 59 | Write program to count of prime numbers present in an array of integers |
| 60 | Write a program to Search for a name in an array of names. Create an array of names from user inputs. |

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| 61 | Write a program to find an integer having maximum number of duplicates in an array of integers |
| 62 | Write program to store all the cyclic prime numbers present in a range in an array. |
| 63 | Write a program to reverse the elements in an array of characters. |
| 64 | Write a program to shift all the prime numbers in the start of the array. |
| **RECURSION PROBLEMS** | |
| 65 | Write a program to find Factorial using Recursion |
| 66 | Write a program to find GCD of two numbers using Recursion |
| 67 | Write a program to print Fibonacci series using Recursion |
| | **STRUCTURE PROBLEMS** |
| 68 | Write a program to create a student details data. Collect details of N students having name, data of birth, cgpa, register number. Then display the student details based on register number input given by the user. Use the concept of Structures to implelment. |
| 69 | Write a program to create array of books. Collect various details of books such as topic, author,department. Collect details for N books and display the details of books based on department name or author. |
| **FUNCTION PROBLEMS** | |
| 70 | Write a function that gets integer as input and returns whether the integer is prime or not |
| 71 | Write a function that gets upper and lower bound of a range and returns all the prime numbers present in the range |
| 72 | Implement your own string length function. |
| 73 | Implement your own string copy function. |
| 74 | Implement your own string compare function which is case sensitive |
| 75 | Write a program to implement your own string concatenate function |
| **POINTER PROBLEMS** | |
| 76 | Write a program to search a number in an array of integers using pointer arithmetic |
| 77 | Write a program to perform Matrix multiplication using Poiner artithmetic |
| 78 | Write a program to store addresses of every element of an integer array in a pointer rarray |