**Week4 & 5 Lab Assignment || Mon Feb06 || Wed Feb08, 2023**

**CS3320 Programming Languages in C++ || Turnin your assignment. Upload to student portal || Due date on Sun Feb12, 2023 at 11:45pm Local Time**

**Complete problem 1 to 20. Upload to student Portal**

**Problem#1**

Write C++ program to generate and display output below

1

2 2

3 3 3

4 44444

55555555

**Prblem#2**

Write a C++ program to generate and display output below:

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**Problem #3**

WAP in C++ which uses functions to swap two integer & two float numbers by using reference variable and display out put

**Problem #4**

Create a single C++ program to perform following functions as

To reverse the string accepted as an argument.

To count the number of characters in string passed as argument in form of character array.

**Problem#5**

Write a program in C++ to create a structure named complex having data member real and imag. Create member function add\_complex which takes structure as an argument and return structure. Using function add two complex numbers.

**Problem#6**

Write a C++ program to perform arithmetic operations using inline function.

**Problem#7**

Write a program in C++ to calculate the area of circle, rectangle, square and triangle and display a output

**Proble#8**

WAP in c++ to count no. of vowels, consonants in each word of a sentence passed as argument in form of character array.

**Problem#9**

Write program in C++ to calculate simple interest and compound interest using default argument.

**Problem#10**

Create a class named calculate that uses overloaded function calclulate\_area of circle, rectangle, square and triangle.

**Problem#11**

Create a class Student having data members to store roll number, name of student, student ID, name of three subjects, Psychology, Biology, Computer Science. Declared an object of class student. Provide facilities to input data in data members and display result of student?

**Problem#12**

Create a class student having data members to store roll no.,name of student, name of 3 subjects , max marks,min marks,obtain marks .use nesting of member function Declare an array of object to input data of 3 students. Provide facilities to display result of all students and to display result of specific student whose roll number is given ?

**Problem#13**

Create a class named ‘array’ having an array of integers having 5 elements as data member provide following facilities :

Constructor to get number in array elements.

Sort the elements.

**Problem#14**

Write a C++ program to display Airline Booking Ticket and display out put

Departure Destination Flight Time of Arrival Gate #

**Problem #15**

Create a class Static\_demo with static member functions for following tasks:-

A. To find factorial by recursive member function

B. To check whether a no. is prime or not.

**Problem#16**

Write a class complex having data members to store real and imaginary part provide following

Add two complex no using object as an argument.

subtract two complex no using object as an argument.

**Problem#17**

Write a C++ swapping program to demonstrate call by value , call by address and call by reference in a single program and display output

**Problem#18**

Write a C++ rogram for to create class polar data member radius and angle define constructor of all three types and create destructor and test function in main.

**Problem#19**

WAP to create a class employee having data member employed id,salary.proide member function for data input,output,use pointer to an object information of employee and test the program in function main ?

**Problem #20**

Write a C++ program-using class and to store data about books(book id,Title,Author,Price,Edition)

Searching for availability of books if provide author.

Searching book by Author name: Doctor Tai Cleveland

Displaying book Title:

Description of the book/Price/Edition/Publish