

Jaypee University of Engineering and Technology, Guna
Department of Computer Science and Engineering
Object Oriented Programming (18B11CI211)
Assignment-2

Floating Date: 29/04/2022

Submission Date: 06/05/2022

Note: Write the assignment in your handwriting. No assignment will be accepted after deadline. Zero marks will be awarded if any plagiarism is found.

Q1. Explain following concepts by writing C++ programs for each:

- i. Friend function
- ii. Friend class
- iii. Static data member and static member function
- iv. Constant member function
- v. Default parameters
- vi. Array of objects
- vii. Reference variable
- viii. Passing object to a function

Q2. Write a C++ program to check if two strings S1 and S2 are rotations of each other.

For example all possible rotated strings of "ABCD" are "BCDA", "CDAB", and "DABC"

Sample test case 1: Input: S1 = "ABCD" and S2 = "CDAB"

Output: TRUE

Sample test case 2: Input: S1 = "ABCD" and S2 = "ACBD"

Output: FALSE

Q3. How to determine the size of a derived class? Explain all possible factors with examples.

Q4. Create a class FLOAT that contains one float data member. Overload all four arithmetic operators so that they operate on the objects of FLOAT.

Q5. Write a C++ program for a class Integer which contains an integer as a data member, overload the ! operator to find factorial of an integer. Write necessary constructor and member functions. [For example: statement fact=!Ob should calculate factorial of data member of object Ob and assigns the result in fact variable.]

Q6. Create a class called Time that has three private integer data members' hours, minutes and seconds. This class contains two constructors; a default constructor and a parameterized constructor to initialize these data members. Class also includes constant member function display() to display time in 11:59:59 format. Write a C++ program to add times of two objects by overloading '+' operator. In order to keep class definition simple, define all the member functions outside the class. Write suitable main function to test the program.