Practical Questions

- **Q1)** Write a program in C++ to show how namespaces work. Create 2 variables and functions with same name inside different namespaces and call them from the main method.
- **Q2)** Write a program in C++ to showcase the use of header files. The header file should include a variable, a method, and both should be kept inside a namespace. Access this variable and method from the main method.
- **Q3)** Write a program to print all elements of a 1-d array using pointers in C++. Also, create a 2-d array and print sum of its elements using pointers in C++.
- **Q4)** Write a program to input 2 strings from the user and print the common characters in both the strings.
- Q5) Write a program to show inline and recursive function in C++.
- **Q6**) Write a program to create a Student class, containing 2 variables name and age. Create its 2 objects and initialize them with help of multiple constructors.
- **Q7**) Write a program to demonstrate how destructor can be used to free memory in C++. Assume we have an Employee class containing 2 variables name (string type) and age (int pointer).
- **Q8**) Write a program to show how to perform a deep copy of an object using copy constructor in C++.

- **Q9**) Write a program to demonstrate how we can use + operator to add age of 2 people using operator overloading.
- **Q10**) Write a program to demonstrate how friend functions can be used to access private data member of a class.
- **Q11**) Assume you have 2 variables with the same name in 2 classes A and B. Class C inherits both A and B. Write a program to demonstrate how to access variables of A and B class in C class.
- **Q12**) Write a program to show various modes of inheritance in C++. Demonstrate clearly which variables can be accessed and which will throw error in various modes of inheritance.
- **Q13**) Show the order of constructors and destructors during inheritance.
- Q14) Demonstrate use of virtual base class in multiple inheritance.
- **Q15**) Write code for function overloading and function overriding.
- **Q16**) Show the use of virtual function in runtime polymorphism.