3.Implement a C++ program to demonstrate Multilevel Inheritance

Code:-

**#include <iostream>**

**#include <string>**

**// Base class**

**class Person {**

**protected:**

**std::string name;**

**public:**

**Person(const std::string& \_name) : name(\_name) {}**

**void introduce() {**

**std::cout << "My name is " << name << std::endl;**

**}**

**};**

**// Intermediate class inheriting from Person**

**class Student : public Person {**

**protected:**

**int studentID;**

**public:**

**Student(const std::string& \_name, int \_studentID) : Person(\_name), studentID(\_studentID) {}**

**void study() {**

**std::cout << name << " is studying with student ID " << studentID << std::endl;**

**}**

**};**

**// Derived class inheriting from Student**

**class GraduateStudent : public Student {**

**public:**

**GraduateStudent(const std::string& \_name, int \_studentID) : Student(\_name, \_studentID) {}**

**void research() {**

**std::cout << name << " (Student ID: " << studentID << ") is conducting research." << std::endl;**

**}**

**};**

**int main() {**

**GraduateStudent gradStudent("Alice", 12345);**

**gradStudent.introduce(); // Inherited from the base class**

**gradStudent.study(); // Inherited from the intermediate class**

**gradStudent.research(); // Defined in the derived class**

**return 0;**

**}**