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#include<iostream>
#include<cstring>
using namespace std;

class Book {
protected:
    int book_id;
    string book_title;
    string author_name;
public:
    void set_book(int id, string title, string author) {
        book_id = id;
        book_title = title;
        author_name = author;
    }
    void display_book() {
        cout<<"Book ID: "<<book_id<<endl;
        cout<<"Book Title: "<<book_title<<endl;
        cout<<"Author Name: "<<author_name<<endl;
    }
};

class bookType: virtual public Book {
protected:
    string type;
public:
    void set_type(int id, string title, string author, string t) {
        set_book(id, title, author);
        type = t;
    }
    void display_type() {
        cout<<"Book type : "<<type<<endl;
    }
};

class subject: virtual public Book {
protected:
    string sub;
public:
    void set_subject(int id, string title, string author, string s) {
        set_book(id, title, author);
        sub = s;
    }
    void display_sub() {
        cout<<"Subject: "<<sub<<endl;
    }
};

class ReferenceBook: public bookType, public subject {
public:
    void set_reference(int id, string title, string author, string t, string s) {
        set_book(id, title, author);
        bookType::type = t;
        subject::sub = s;
    }
    void display_reference() {
        cout<<"Reference Book Details: "<<endl;
        display_book();
        display_type();
        display_sub();
    }
};

int main() {
    ReferenceBook b;
    b.set_reference(100, "The C++ Programming Language", "Balagurusamy", "Programming", "Computer Science");
    b.display_reference();
    return 0;
}

```