

# Report c++ code

## Q7

```
Class Book
Properties:
    title (string)
    author (string)
    book_id (integer)

Constructor(title, author, book_id)
    this.title = title
    this.author = author
    this.book_id = book_id

Method getBookID() returns integer
    return this.book_id

Method displayBookDetails()
    Print "Book ID: " + this.book_id
    Print "Title: " + this.title
    Print "Author: " + this.author

Class Library
Properties:
    books (array of Books)

Method addBook(book)
    Append book to this.books
    Print "Book added successfully."

Method removeBookByID(book_id)
    for each book in this.books
        if book.getBookID() is equal to book_id
            Remove book from this.books
            Print "Book with ID " + book_id + " removed successfully."
            return
    Print "Book with ID " + book_id + " not found in the library."

Method displayAllBooks()
    Print "---- Library Books ----"
    for each book in this.books
        book.displayBookDetails()
    Print "-----"
```

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## Q8

```
Class BankAccount
Properties:
    owner_name (string)
    balance (double)
    id (string)

Constructor(name, account_num)
    owner_name = name
```

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        id = account_num

Method deposit(amount)
    balance += amount
    Print "Your balance is: " + balance

Method withdraw(amount)
    if balance < amount
        Print "Your balance is less than this amount."
    else
        balance -= amount
        Print "Your balance is: " + balance

Method get_info()
    Print "Balance: " + balance
    Print "Account number is: " + id

```

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## Q9

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Class shape
    Properties:
        area (double)

    Virtual Method area()
        Return area

Class Rectangle : shape
    Properties:
        length (double)
        width (double)

    Constructor(length, width)
        this.length = length
        this.width = width

    Method area()
        Return length * width

Class Circle : shape
    Properties:
        radius (double)

    Constructor(radius)
        this.radius = radius

    Method area()
        Return (22/7) * radius * radius

Class Triangle : shape
    Properties:
        base (double)
        height (double)

    Constructor(base, height)
        this.base = base
        this.height = height

    Method area()

```

Return (base \* height) / 2