

PRENDON, MARK KENNETH.  
21 - ITE - 06  
OBJECT-ORIENTED PROGRAMMING

WEEK 2 | Laboratory Activity 2: Comprehensive Application of Access Modifiers, Constructors, Destructors, and Method Overloading

```
<?php
```

```
class Book {
```

```
    public $title;
```

```
    protected $author;
```

```
    private $price;
```

```
    public function __construct($title, $author, $price) {
```

```
        $this->title = $title;
```

```
        $this->author = $author;
```

```
        $this->price = $price;
```

```
    }
```

```
    public function getDetails() {
```

```
        return "Title: {$this->title}, Author: {$this->author}, Price: \${$this->price}."<br>";
```

```
    }
```

```
    public function setPrice($price) {
```

```
        $this->price = $price;
```

```
    }
```

```
    public function __call($method, $args) {
```

```
        if ($method == 'updateStock') {
```

```
        echo "Stock updated for '{$this->title}' with arguments: " . implode(' ', $args). "<br>" .
PHP_EOL;
```

```
    } else {
```

```
        throw new Exception("Book object has no attribute '$method'");
```

```
    }
```

```
}
```

```
}
```

```
class Library {
```

```
    private $books;
```

```
    public $name;
```

```
    public function __construct($name) {
```

```
        $this->name = $name;
```

```
        $this->books = [];
```

```
    }
```

```
    public function addBook(Book $book) {
```

```
        $this->books[] = $book;
```

```
    }
```

```
    public function removeBook($title) {
```

```
        $booksBeforeRemoval = $this->books;
```

```
        foreach ($this->books as $key => $book) {
```

```
            if ($book->title == $title) {
```

```
                unset($this->books[$key]);
```

```

        break;
    }
}

$booksAfterRemoval = $this->books;

return [$booksBeforeRemoval, $booksAfterRemoval];
}

public function listBooks() {
    foreach ($this->books as $book) {
        echo $book->getDetails() . PHP_EOL;
    }
}

public function __destruct() {
    echo "The library '{$this->name}' is now closed." . "<br>" . PHP_EOL;
}
}

```

```

$book1 = new Book("The Great Gatsby", "F. Scott Fitzgerald", 12.99);

```

```

$book2 = new Book("1984", "George Orwell", 8.99);

```

```

$library = new Library("City Library");

```

```

$library->addBook($book1);

```

```

$library->addBook($book2);

```

```
$book1->setPrice(12.99);
```

```
$book2->setPrice(8.99);
```

```
$book1->updateStock(50);
```

```
echo "Books in the library:."<br>" . PHP_EOL;
```

```
$library->listBooks();
```

```
//book removal
```

```
$library->removeBook("1984");
```

```
echo "Book '1984' removed in the library."<br>;
```

```
echo "Books in the library after removal:."<br>" . PHP_EOL;
```

```
$library->listBooks();
```

```
unset($library);
```

```
?>
```

NOTE:

To test this code save this file as prendonmarkkenneth.php and run it in a visual studio or using a PHP command-line interface.