# Lab 5
# Classes

**The following exercises are to be completed during lab class. If you do not have time to finish during lab, they must be completed before the beginning of the following lab session.**

## *Set-Up*

- Create a new project in your Eclipse workspace named: **Lab05**
- In the *src* folder, create a package named: **edu.ilstu**

## Part 1

Create test data and calculate the expected result.

| Input | Expected Results | | |
|-------|------|----------|---------------|
| Radius | Area | Diameter | Circumference |
| | | | |
| | | | |
| | | | |

Implement the `Circle` class you designed for pre-lab.

Write a program name `CircleDriver` that demonstrates the `Circle` class by asking the user for the circle's radius, creating a `Circle` object, and then reporting the circle's area, diameter, and circumference.

### Sample Output

```
Enter the radius of a circle:  5
Area = 78.53975
Diameter = 10.0
Circumference = 31.4159
```

## Part 2

Create test data and calculate the expected result.

| | Input | | Expected Output |
| --- | --- | --- | --- |
| **Book** | **Number Sold** | **Percent Increase** | **Price** |
| Life of Pi | | | |
| Harry Potter | | | |
| Life of Pi | | | |
| Harry Potter | | | |

Implement the Book class you designed for pre-lab. Sales tax would be 7.5%. Create a Java program class named BookDriver that creates two Book objects. First object is for the book "Life of Pi " priced at $13.50 and the second is for the book "Harry Potter: Goblet of Fire" priced at $22.00. Sales program should ask the user for number sold for each book and display the resulting sales amount (note: sales amount should include sales tax) for each, properly labeled and indicating for which book. Then the program will ask the user for percentage increase in price for each book, and update the Book objects accordingly. Display the sales amounts (note: sales amount should include sales tax) again using the updated prices. All money amounts should be formatted with a dollar sign and two decimal places.

## Sample Output

```
Enter number to buy of Life of Pi:  1
Cost for Life of Pi = $14.51
Enter number to buy of Harry Potter:  1
Cost for Harry Potter = $23.65
Enter percent increase for Life of Pi (in decimal form):  .05
Enter percent increase for Harry Potter (in decimal form):  .05
Cost for Life of Pi = $15.24
Cost for Harry Potter = $24.83
```

### To Be Submitted
The following files should be zipped together into a file called Lab05.zip and submitted to ReggieNet by the beginning of your next lab.
- Circle.java
- CircleDriver.java
- Book.java
- BookDriver.java