

**Assignment 1****Java Basics****30 points****See Canvas for due date**

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You have been assigned as the lead programmer for the World Track and Field Championships! The 100 meter dash is one of the highlights of this competition and is considered by many to demonstrate the world's fastest human. Your job is to take the top finish time (given in seconds with two digits of precision to the right of the decimal point) for the 100 meter dash and do some conversions to find out how fast the person was traveling in:

- meters per second
- feet per second
- kilometers per hour
- miles per hour



In addition, you must also determine how long it would take the person to run one mile. And finally, you must determine how long it would take the person to run 100 yards.

Your program design should make use of java methods to properly *encapsulate* variables and processing.

The result of each conversion you perform should be displayed and clearly labeled, as demonstrated in the sample “run” below (NOTE: the actual numeric results are not displayed – that is for you to figure out):

Example run:

```
Please enter the winning time of the race: 15.00
```

```
The person was traveling at a rate of:
```

```
x.xx meters per second,  
y.yy feet per second,  
z.zz kilometers per hour,  
y.yy miles per hour,
```

```
It would take m minutes and n.nn seconds for the person to run  
one mile.
```

```
It would take t.tt seconds for the person to run 100 yards.
```

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It is your job to figure out the conversions necessary to determine the necessary output based on the above (NOTE: it is also your job to format your output in the same style as shown).

**Your solution must be designed modularly.**

TO TURN IN:

A zip file containing:

- Your java code - class is named Track.java.
- A text file showing three sample runs (capture you output in the jGrasp console window – right-click).

Note you are graded on how well you test.

Name your assignment .zip file with your last name, followed by the first initial of your first name, followed by hw1.zip (ex: peterschw1.zip) Submit to Canvas.