

## Unit 2 Lecture 3:

### Topic 1: Important aspects of a Parametric Constructor

- 1) The name of a parametric constructor must match exactly the name of the class.
- 2) The parametric constructor has no return type.
- 3) The parametric constructor must have at least one argument. If the argument is a primitive data type or a String it is passed by value. If the argument is an object it is passed by reference.
- 4) The purpose of a parametric constructor is to initialize the instance fields.
- 5) The arguments of the parametric constructor need not directly initialize the instance fields. They may be manipulated or substituted into a formula to initialize the instance fields.

#### Example:

```
public class Transaction
{
    private double change;
    private static final double RATE = 0.065;

    public Transaction(double cost, double amtTendered)
    {
        double tax = cost * RATE;
        cost += tax;

        change = amtTendered - cost;
    }
    .
    .
    .
}
```

## **Topic 2: How is a Default Constructor different from a Parametric Constructor?**

In Topic 1 above, items 1, 2, & 4 are the same for Default Constructors and Parametric Constructors. It is in items 3 and 5 where the difference lies. Default Constructors do not have arguments. They do not have values passed to them. Typically Default Constructors are used to initialize instance fields with nondescript values. Integers and doubles would be initialized with a value of zero and Strings would be initialized with the null String ("").

### **Unit 2 Assignment 3: The Military Time Problem**