ECE122

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Any question on Vehicle sample code?
Returning from a method (review)

- void methods do not return a value to the method caller. Such method will return when its method closing brace is reached, or a return statement is executed.

- Methods that return with a value will return to the calling routine using this form of return:
  
  ```java
  return value; //value is a variable of return data type //defined in method signature.
  ```
More on arguments & Parameters

- At the time of method call, the argument value in the call is assigned to the corresponding parameters in the method header. Compilation errors will occur if
  -- the number of arguments in a method call doesn’t match the number of parameters in the method declaration.
  -- the type of the arguments in a method call are not consistent with the types of the corresponding parameters in the method declaration.
Constructor

• We use “new” operator to create an object.
• What method is actually called really?
• Constructor is called!
What is a constructor

- It is a method of that class.
- Its method name is the same as the class name.
- It is usually declared public.
- It can have parameter list, or no parameter at all.
- It doesn’t have a return type.
- Within a constructor, data members can be initialized.
- If there is no constructor defined for a class, the compiler will create a default one (with no parameter) for you.
- Instance variables will be initialized to their default values, if you don’t assign one. A numeric value is initialized to zero, booleans are initialized to false, and a reference type is initialized to null.
- If you declare a constructor with parameters, the compiler will NOT create a default constructor for you. If you need a constructor without parameter, you have to create it yourself.
Constructor Overloading

• Overloaded constructor means you have more than one constructor in your class.
• Overloaded constructors must have different argument lists.
• You cannot have two constructors with the same arguments lists. An argument list includes the number, order and/or type of arguments.
public class Constructor
{
    int i;
    public Constructor() //constructor with no parameters
    {
        i = 100; //data member initialization
    }
    public Constructor(int j) //constructor with parameters
    {
        i = j; //initialization.
    }
}
Constructor example

- Instantiate a new object using constructor without parameter list,
  Constructor \( c = \) new Constructor();
- Instantiate a new object using constructor with a parameter,
  Constructor \( d = \) new Constructor(50);
Assignments

• Practice and understand Constructor.java.