



## Landscape Gardening Quote (with inheritance and total calculations)

### Requirements

Customers provide a landscape gardening company with a plan detailing lawns, concrete patios and water features. Unit material costs and installation times are as shown in the table. Customers who engage our landscape gardening company can specify two types of landscape gardening item (i) Type 1, items specified by length and width (lawns and patios) and (ii) Type 2, items specified by quantity (water features). Both have unit material costs and installation times associated with them. When generating quotes for customers, the landscape gardening company needs to determine the total material cost and installation time for each item. Create a collection of Java classes that will: (a) allows a user to input lawn and patio dimensions and the number of water features required (if any), (b) calculate individual total material costs and (c) the installation times per item.

Work to be done	Unit cost of materials	Unit time to install
Laying a lawn	£15.50 per m <sup>2</sup>	20 mins per m <sup>2</sup>
Laying a concrete patio	£20.99 per m <sup>2</sup>	20 mins per m <sup>2</sup>
Installing a water feature (e.g. a fountain)	£150.00 each	60 mins each

### The toString Method

Every object in Java inherits a `toString` method to represent an object as a string. If we have an instance of the class `MyClass` called `obj` and write:

```
System.out.print(obj);
```

We will see something like

```
MyClass @211d0a4f
```

The memory location where the `MyClass` definition is stored. This can be useful for debugging or error handling. However, we can “overwrite” the method `toString` in our class definition so as to output something more useful. Thus:

```
Public String toString() {
    String s = "Some more " +
              "useful text\n";
    return(s);
}
```