

# Java Programming @ The department of Computer Science



## Landscape Gardening Quote Task 4

### 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.

**Task 1:** Create a collection of Java classes that will calculate individual total material costs and installation times per item given a specific quote.

**Task 2:** The company has asked if it would be possible to save customer quotations so that these can be viewed at a later date. Create a section of the program that allows quotations to be saved and retrieved by the company.

**Task 3:** The Managing Director of the company has also explained that there are times when the cost of raw materials can change. Develop a way to allow the user of the system to store the costs of raw materials in an external file, so that these costs can be changed when the prices of the materials rise and fall.

**Task 4:** The Managing Director of the company has asked if there is a way that she can use this system to prepare a monthly report that compares the total cost of all materials purchased per month across all jobs undertaken. She would find this information useful in predicting the future needs for materials at different times of the year. The user of the system would type in the name of the month or the month number (e.g. 6 for June). The program will then read all of the materials purchased for that month and calculate the totals.

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

**Note:** This exercise is based on an AQA HCSE Specimen Controlled Assessment.

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