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Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

COMPUTER SCIENCE **0478/23**

Paper 2 Problem-solving and Programming **May/June 2019**

PRE-RELEASE MATERIAL

No Additional Materials are required.

This material should be given to the relevant teachers and candidates as soon as it has been received at the centre.

READ THESE INSTRUCTIONS FIRST

Candidates should use this material in preparation for the examination. Candidates should attempt the practical programming tasks using their chosen high-level, procedural programming language.

Any businesses described in this paper are entirely fictitious.

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This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

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In preparation for the examination candidates should attempt the following practical tasks by **writing and testing a program or programs**.

A discount stationery store sells items in bulk at a discount to its customers. Customers can order from a small range of items available on that day. The greater the quantity of an item they buy in one order, the greater the discount for that item.

Quantity of an item	Discount
10	5%
20	10%
50	25%
100	35%
500	50%

In addition to this, new customers can use a $10 voucher, provided their order comes to more than $50. Also, returning customers are given a discount voucher with a monetary value.

Write and test a program or programs for the discount stationery store.

- Your program or programs must include appropriate prompts for the entry of data; data must be validated on entry.
- Error messages and other output need to be set out clearly and understandably.
- All variables, constants and other identifiers must have meaningful names.

You will need to complete these **three** tasks. Each task must be fully tested.

Task 1 – Stationery available on the day.

Using arrays, set up a list of at least 10 different items available that day. For every item include: item code, description, price and the amount in stock. All item codes must be different. Display the item code, description, price and the amount in stock on the screen.

Task 2 – Customer places an order.

The customer chooses an item code from the list of currently available items. Any items that are out of stock are not displayed and any items that have low stock of 10 or fewer are highlighted. The customer enters the number they wish to purchase. If there are not enough items in stock the number is rejected. The price to pay and any discount is shown on the screen. When the order is complete, any customer discount voucher is applied and the total price is shown. If the customer confirms the order, the stock numbers are then updated.

Task 3 – At the end of the day.

List the item codes of any items that have sold out. Display the item code of any items of which none have been sold. Display the item code and description of the item of which the greatest quantity have been sold today.

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