

009 An algorithm a day...

Algorithm Question

A free drinks machine provides 20 different drinks.

Source: OCR GCSE Computing Exam June 2014

The machine has a small keypad with keys 0-9, Submit and Cancel. It has a small LCD display, which can display messages to the user.

To get a drink the user selects it by typing in the relevant number (1-20). If they type in the wrong number, they can cancel and enter a new number. When they are happy with their choice they press the submit button. If the selection is valid (1-20) and the drink available, the machine will dispense the drink.

Write an algorithm in pseudocode which for the process outlined above

[6 marks]

Algorithm Example Answer

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*****There are always different ways to solve a problem. This algorithm is just an example. What is important is that the logic is correct!*****

LOGIC:

- **Allows for the inputting of key presses**
- **Joins the numbers entered together (if more than one key press given)**
- **Resets choice if cancel pressed**
- **If 'submit' pressed and choice valid and drink available**
- **...dispense drink**
- **If not then display appropriate message**

EXAMPLE ALGORITHM:

```
Choice = ""
REPEAT
    INPUT Button
    IF Button is between 0 and 9 THEN
        Choice = Choice & Button
        OUTPUT Choice
    ELSE IF Button = CANCEL THEN
        Choice = ""
    END IF
UNTIL Button = OK

IF Choice is between 1 and 20 THEN
    IF drink chosen available THEN
        Dispense drink
        OUTPUT "Collect your drink"
    ELSE
        OUTPUT "Drink not available"
    END IF
ELSE
    OUTPUT "Invalid selection"
END IF

Wait
OUTPUT "Ready"
```

