

6-A-Day – Computer Science GCSE (22)

Q1

The program in a vending machine uses an array called *Coins* to store the value in pence of all the coins that have been entered in the current sale.

A maximum of 10 coins can be entered in each sale.

After each sale, the array is reset so that all values are 0.

(a) Here is an example of the contents of the array *Coins* during a sale.

10	100	20	50	5	0	0	0	0	0
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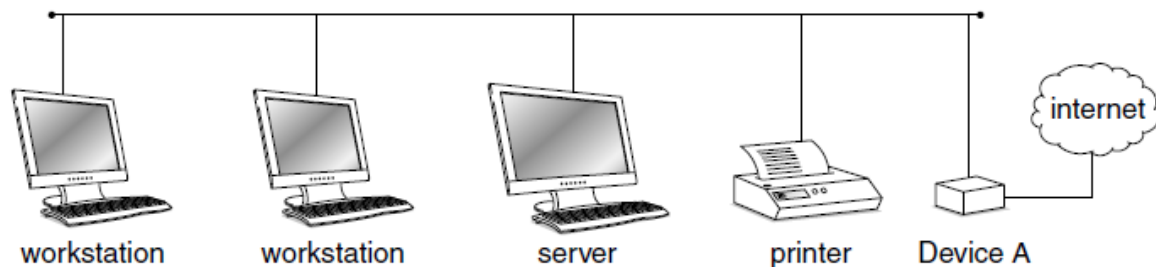
In the example above, the value of *Coins*(1) is 10.

Write an algorithm to calculate the total value of the coins entered in the current sale using the contents of the array *Coins*.

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Q2

The following diagram shows how the computers in Mr Singh's office are connected to each other to form a LAN.



(a) State the correct name for this network topology.

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Q3

State the name of the Device A which connects the server to the internet.

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Q4

A school uses a computer system to monitor the attendance, punctuality and homework of its pupils.

Explain how the school might address any legal issues when creating a system which stores personal data about pupils.

The quality of written communication will be assessed in your answer to this question.

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Q5

The table below shows different standard file formats that are used to transmit media files on the internet.

Tick one box in each row to show whether the format is used to transmit an image file, a sound file or a video file.

	image file	sound file	video file
AVI			
BMP			
JPG			
MP3			

[4]

Q6

Convert the denary number 55 to an 8 bit binary number.

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..... [2]