Blog Assignment No. 2 for Summer Vacations for class 11

Q: A company selling CDs and DVDs presently uses a manual, paper-based system to keep track of:

- stock levels - files containing CD and DVD information - sales information

The company has shops in five major cities.

When a customer comes into the shop s/he goes to the desk and either asks the assistant to find a particular CD/DVD. The shop assistant locates the files for the item the customer has requested and,

(i) checks if it is stock (ii) checks the price of the CD/DVD (iii) finds where the CD/DVD is in the shop

If the customer has already found the CD/DVD in the shop s/he takes it to the desk and the shop assistant finds the item file to check for its price. The customer pays for the CD/DVD and the following then happens:

- shop assistant fills out a sales receipt and puts it into a file - at the end of the day, all the sales are recorded and the number of each item in stock is updated - if the number of items are low a request for new stock is filled out - the value of the day’s sales are recorded in an accounts book.

The new system

The system is to be computerised. The following will be created:

(i) all CD and DVD data will be stored on a database (ii) all items for sale will have a bar code on them (iii) a sales file will be set up (iv) a database will be created showing supplier and customer details

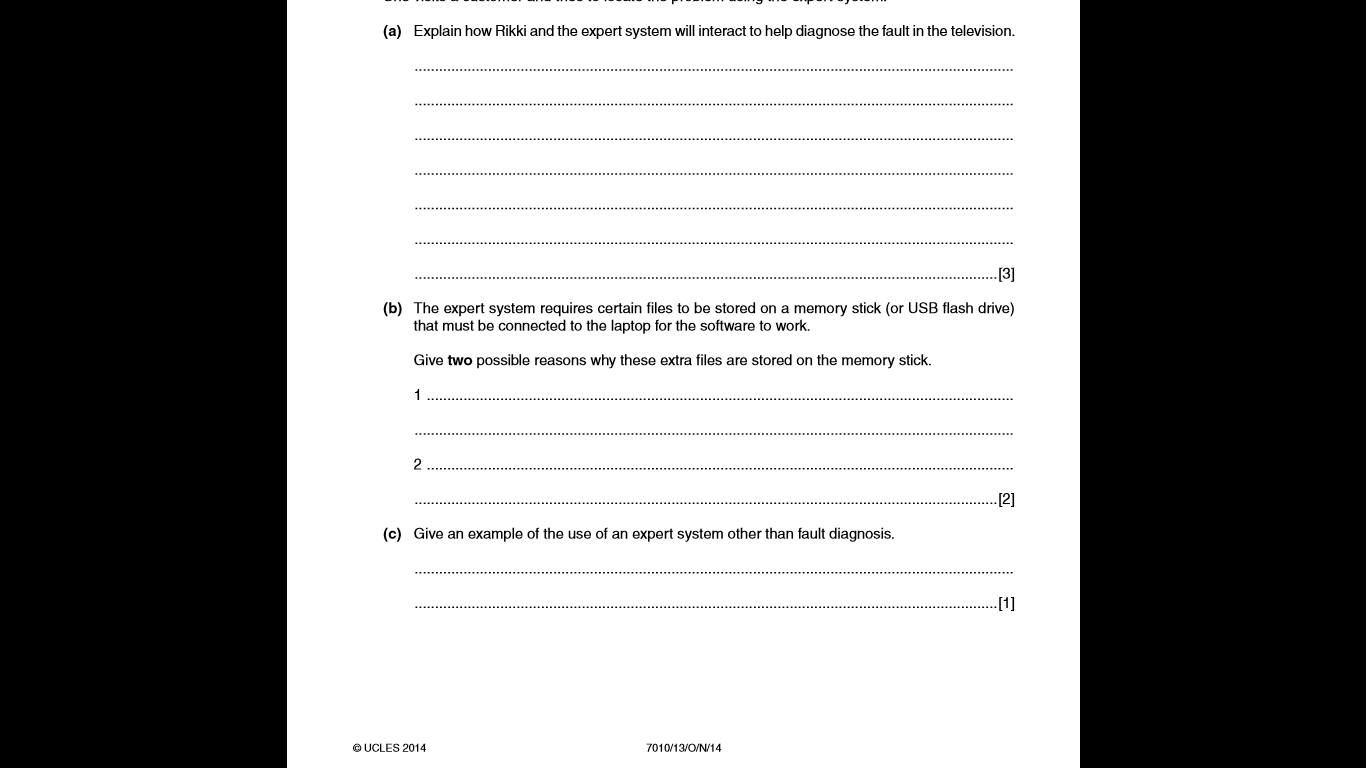
A customer goes into the shop and finds a CD/DVD s/he wants to buy. The shop assistant scans the bar code on the item and the CD/DVD details have been found including its price. The stock files are updated (i.e. 1 is reduced from the number in stock) and the takings file updated. The stock levels for that item are checked and an automatic order is sent out after accessing the supplier database.

If the customer has requested the assistant to find a particular CD/DVD the assistant keys in the name/artist and finds out if the item is in stock, where it can be found and it’s price (the next stage is the same as above). If the item isn’t in stock, the assistant takes the customer details and updates the database and adds a request for the item to be ordered and this is added to the customer’s file.

(a) Draw the systems flow charts to show how the above system will work.

(b) Discuss the advantages of the new computerised system when compared to the manual paper-based system.

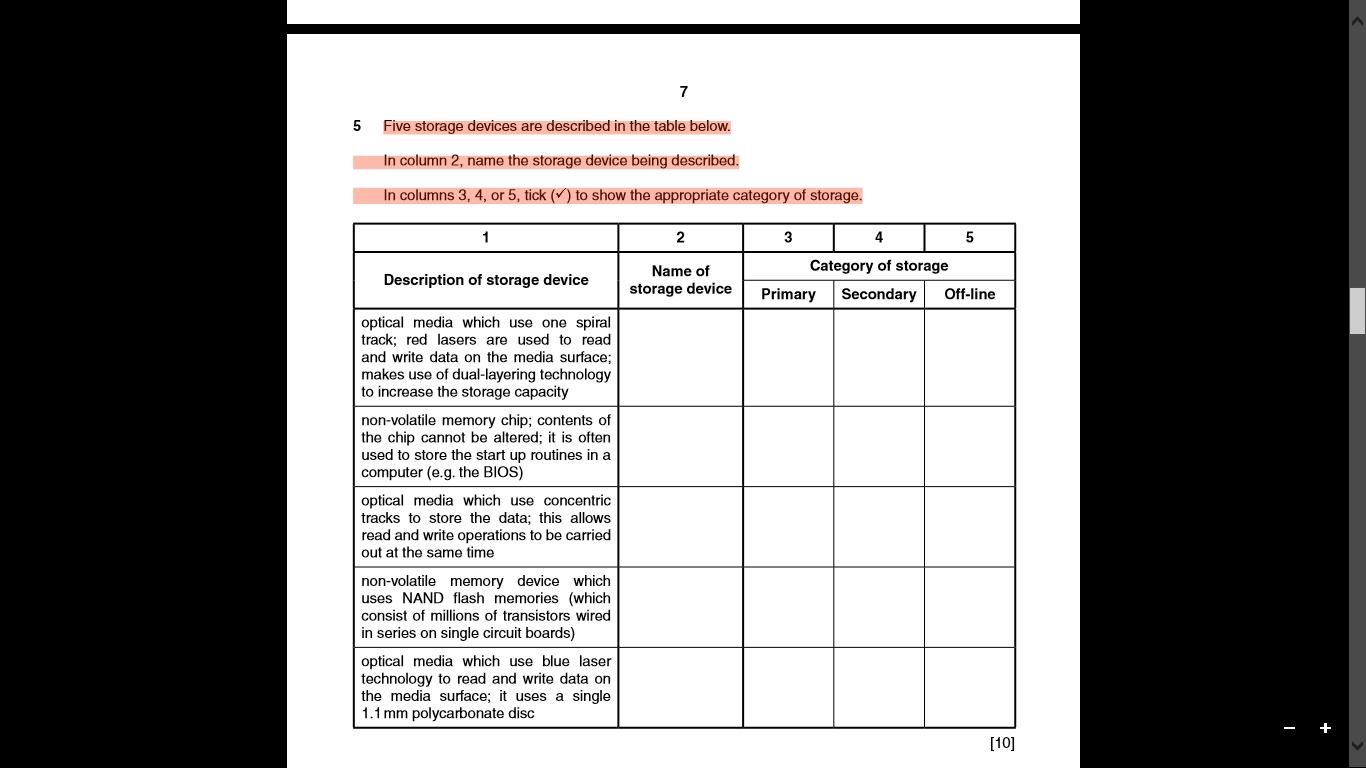
(c) Why would the new system reduce the shop’s costs?



Q1. Five storage devices are described in the table below.

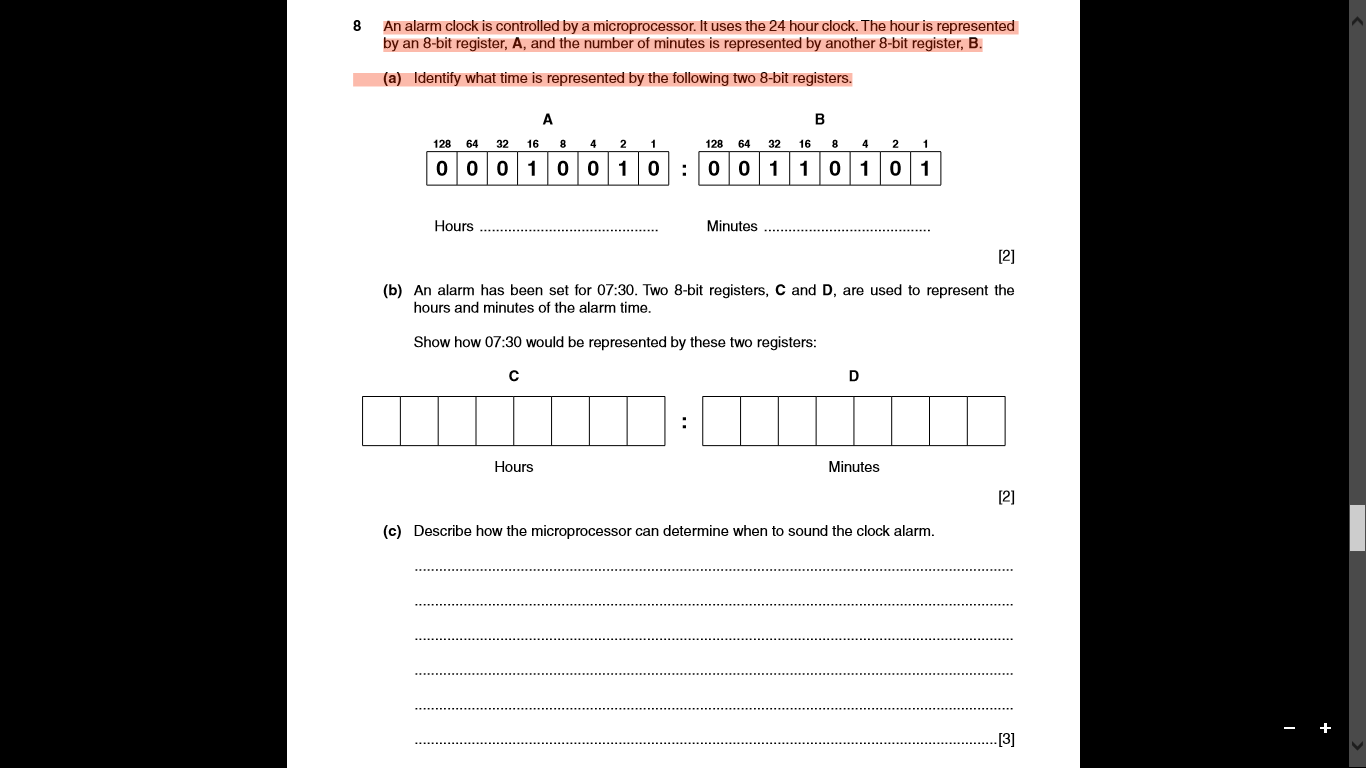
In column 2, name the storage device being described.

In columns 3, 4, or 5, tick () to show the appropriate category of storage.

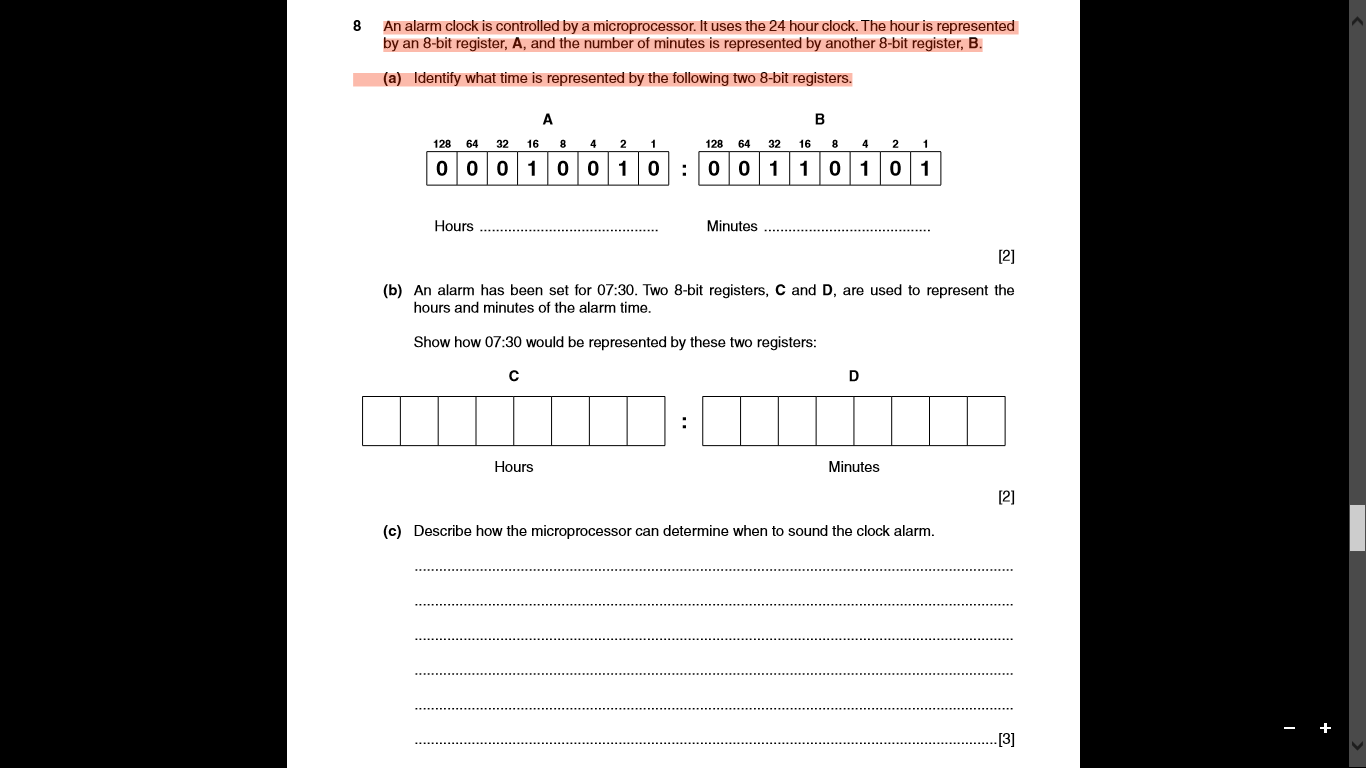


Q2: An alarm clock is controlled by a microprocessor. It uses the 24 hour clock. The hour is represented by an 8-bit register, A, and the number of minutes is represented by another 8-bit register, B.

1. Identify what time is represented by the following two 8-bit registers.



(b) An alarm has been set for 07:30. Two 8-bit registers, C and D, are used to represent the hours and minutes of the alarm time.

Show how 07:30 would be represented by these two registers: 

(c) Describe how the microprocessor can determine when to sound the clock alarm.

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