



ATAR course examination, 2022

COMPUTER SCIENCE

SOURCE BOOKLET

Refer to the information that follows to answer Questions in Section Two of the Question/Answer booklet.

Refer to the information below to answer Questions 25 and 26.

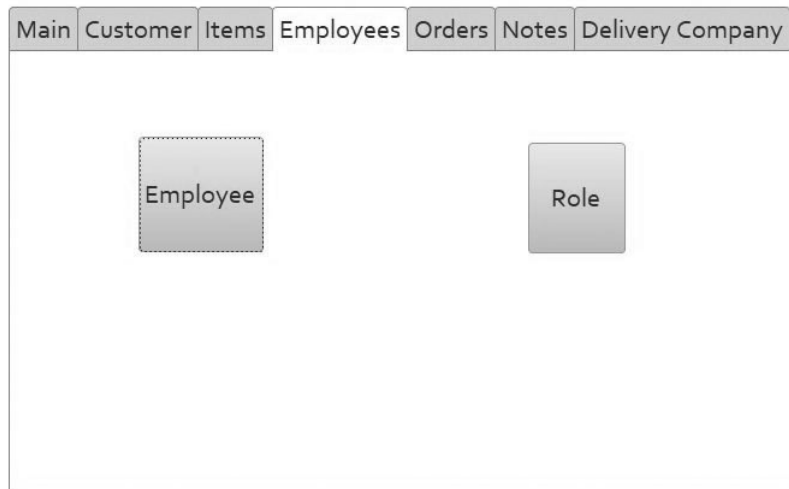
A small independent grocery store has decided to offer its customers an online ordering application that can be used on different platforms, including web and mobile. It requires the application to address the following activities:

- It will allow customers (age 18 or over) to register their details which are stored in a Customer file. The details registered include personal details, delivery address and payment details. Payment details consist of credit card details.
- The credit card details will be sent off to the external provider for verification. Once verification of the credit card has been completed the registered customer receives an email with login details. The checked credit card details are stored in the Customer file.
- Customers can place multiple orders that include different items in different quantities. The available items are stored in the Items file. Payment is made at the time of ordering through the customer's verified credit card. The customer can choose a delivery day and time. Orders are kept in the OrderItems file.
- Once an order has been placed the customer receives a notification with the items listed and the total price for the items. Notification of order is to be kept in the PlacedOrder file.
- When an order is received, the store manager is notified and searches the Employee file to assign an employee to find and pack the needed items.
- If any item is not available, the quantity and price is deducted from the order in the OrderItems file.
- Once the order is ready for dispatch the customer's credit card is deducted with the final payment.
- An external delivery company is notified and collects the order and delivers it to the customer at the scheduled time. If there are any delays, the delivery company notifies the store and the customer will be made aware by email of the new proposed time.
- The application will also allow for customers and the manager to be able to insert notes and a rating scale for the other party after delivery has been made in the notes file.

See next page

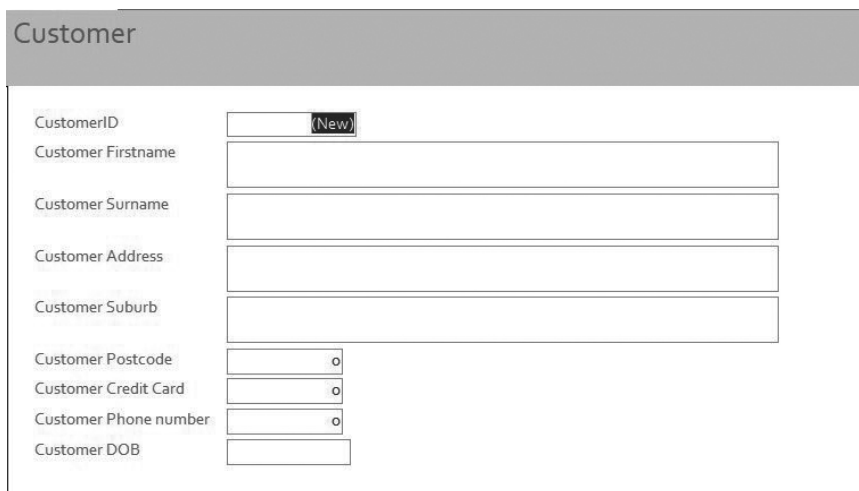
Refer to the information below to answer Question 26.

Below is a dashboard that was created quickly to allow the manager to access the different tables in the database.



The dashboard features a horizontal navigation menu at the top with the following tabs: Main, Customer, Items, Employees, Orders, Notes, and Delivery Company. Below the menu, there are two prominent buttons: 'Employee' and 'Role'.

Below are examples of the Customer and Items data entry forms.



Customer

CustomerID

Customer Firstname

Customer Surname

Customer Address

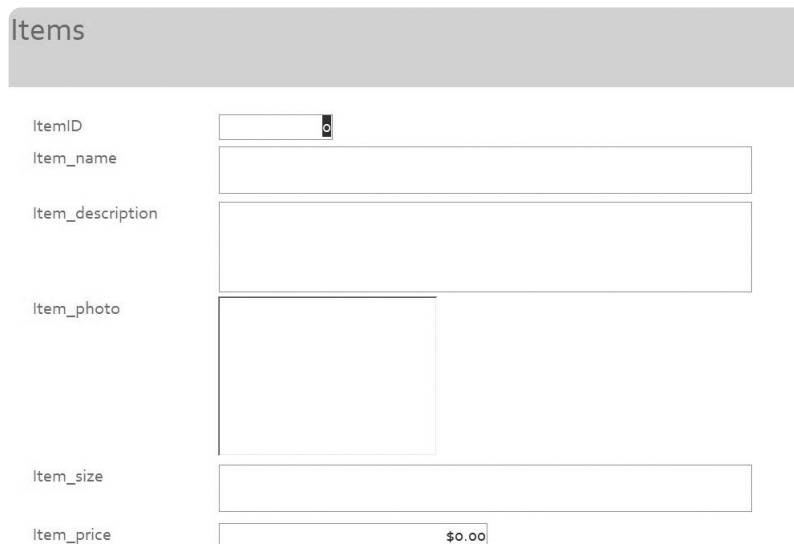
Customer Suburb

Customer Postcode

Customer Credit Card

Customer Phone number

Customer DOB



Items

ItemID

Item_name

Item_description

Item_photo

Item_size

Item_price

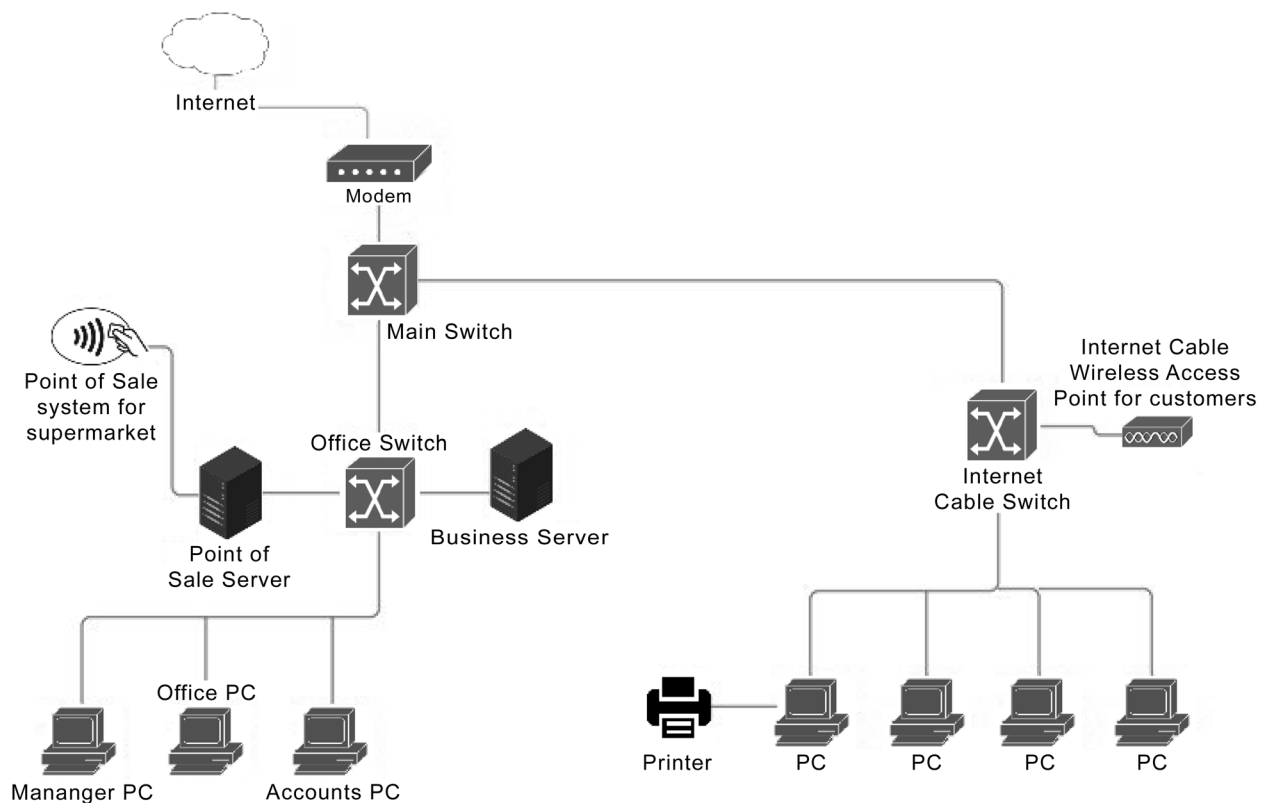
See next page

Refer to the information below to answer Question 27.

The owners of the independent grocery store decided to open an internet café next to their store a few months ago, however, they have been experiencing problems lately.

- The network performance has been getting slower and slower for the Point of Sale (POS) system, particularly during the school holidays and weekends.
- All the equipment is only a few months old.
- For some reason, business report printouts for the grocery store are being printed at the café which are confidential.
- The owners are also worried about the potential for hacking due to the increasing number of reports in the news.
- The current network consists of a modem, 3×100Mb 24 port switches, and wireless access point and has Cat5 100MB cabling installed for each computer.
- There is a POS server that manages the POS transactions located in the grocery store.
- The Business Server and POS server are connected to the office switch.
- Currently all employees use the same admin login and password.
- The login and the password to the wireless point is displayed on the counter in the café for convenience.

A diagram of the network is shown below.



See next page

Refer to the information below to answer Question 28 (a).

The independent grocery store has been having a few issues with type of hazards occurring within their store. The current system is inadequate, and the owners would like an online Hazard Reporting System developed.

- At present, when a hazard is identified, the employee fills in a paper form, which is saved in a database.
- The manager checks the form and sends it to be actioned.
- Once the hazard has been actioned, the form is saved to the filing cabinet.
- The manager copies the form and sends it to the head office.

Refer to the information below to answer Question 28 (b), (c) and (d).

The following incomplete pseudocode was written by a previous programmer.

```
Module IdentifyHazard (Name, Location, Date, Time, Hazardtype)
Input (Name)
Input (Location)
Input (Date)
Input (Time)
Input (Hazardtype)
End Module
```

```
Module ActionControl (Hazardtype, Action)
' Code to be completed. Note: action is based on the Hazardtype
End Module
```

```
Module WorkCompleted (Verification)
' Code to be completed. Note: Verification is either yes or no
End Module
```

```
Main Module
  Call IdentifyHazard (Name, Location, Date, Time, Hazardtype)
  Call ActionControl (Hazardtype, Action)
  Call WorkCompleted (Verification)
End Module
```

This page has been left blank intentionally

This page has been left blank intentionally

This document – apart from any third party copyright material contained in it – may be freely copied, or communicated on an intranet, for non-commercial purposes in educational institutions, provided that it is not changed and that the School Curriculum and Standards Authority (the Authority) is acknowledged as the copyright owner, and that the Authority's moral rights are not infringed.

Copying or communication for any other purpose can be done only within the terms of the *Copyright Act 1968* or with prior written permission of the Authority. Copying or communication of any third party copyright material can be done only within the terms of the *Copyright Act 1968* or with permission of the copyright owners.

Any content in this document that has been derived from the Australian Curriculum may be used under the terms of the Creative Commons [Attribution 4.0 International \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) licence.

An *Acknowledgements variation* document is available on the Authority website.

*Published by the School Curriculum and Standards Authority of Western Australia
303 Sevenoaks Street
CANNINGTON WA 6107*