



Computer Applications Olympiad



A project of the Computer Society of South Africa, sponsored by The CoZa Cares Foundation.

COMPUTER APPLICATIONS OLYMPIAD FINALS 2013

[4 Hours]

The “Casa Sin Nombre” bed and breakfast establishment has asked you to do some research for them and to develop various documents to assist in the management of the establishment. The requirements for these tasks are given below:

1. You may produce the material in any order.
2. It is important that you submit something in each of the five categories.
3. Check the mark allocation and invest your time accordingly.
4. It is important to save every step of your work for later evaluation.
5. The rules are similar to those for a matric paper and include such items as:
 - No communication with each other or the outside world.
 - No electronic devices such as flash drives, ipods, phones etc.
 - Do nothing to disturb other participants.
 - Ask permission to get up and leave your station.
6. Before you hand in, please ensure that you have saved the following files:
 - Welcome card
 - Spreadsheet Analysis
 - Database
 - Personalised Invoice
 - Reports

A: WELCOME CARD

Scenario: A guest house welcome card is three things:

1. It is a card you can hand out to your guests as they arrive at check-in to help save your staff time during the check-in process
2. It is a simple map with directions to local restaurants, entertainment and services for your guests which helps them to decide what to do and where to go while visiting your town
3. It is a full colour, high quality advertising piece and keepsake for your guests to take home with them so that they remember you, and allows them to show their friends where they stayed and what they did.

Task:

Create a one-page “Welcome Card” that can be given to a guest when they arrive at the guest house.

The card must look exactly like the one that has been provided to you.

The “card” must be a single A4 page.

You must ensure that the data displays correctly when the card is folded.

All images and text can be found in the MS PowerPoint presentation “WelcomeCard.pptx”.

Save your document with the name “WelcomeCard.docx”.

[10 points]

B: SPREADSHEET ANALYSIS

Scenario:

The “Casa Sin Nombre” guesthouse has 12 rooms all of which have Internet access. A spreadsheet log file, showing the usage for the week 17th June to 23rd June, has been supplied. Each line contains the date and room number as well as the time the user started and ended each Internet session. The data in the file is not sorted.

Task:

Use the information in the spreadsheet “SpeadsheetAnalysis” to do the following:

- 1) Format the cells using appropriate formatting.
- 2) Sort the data by date, room number and session starting time.
- 3) Calculate the duration (in minutes) of each session.
- 4) Calculate the cost of each session and the total income for Casa Sin Nombre, given that
 - a. any session less than 20 minutes is free (see last note below)
 - b. if a session is 20 minutes or longer then a cost of R3 is charged for every 5 minutes or part thereof over the total time for the session.
- 5) Produce a summary for each of the following questions. Each summary must appear on a separate worksheet (as provided) and must be linked to the original worksheet.
 - a. A sheet which shows a summary of the total income for each room
 - b. A sheet which shows a summary of the total income for each day
 - c. A sheet which shows a summary of the total internet time used per room by date
- 6) Produce an appropriate chart showing the information obtained in ONE of the above reports. The chart must appear on the same sheet as the relevant summary.
- 7) Determine the change in total income if the ‘free’ time was changed to 30 minutes. This must be done in an additional column.
- 8) The owners get 1000 free Internet minutes per week. Using these 1000 minutes they wish to increase the ‘free’ time given to guests. Analyse the given data and show what length of ‘free’ Internet time will make maximum use of the free minutes given.

Notes:

- Where results can be obtained by various means, the most efficient method, as decided by the judges, will score more highly.
- Partial solutions will be evaluated.
- Formatting and layout will be evaluated.
- There are other rules, which discourage ending sessions just before the ‘free’ time is up and then starting a new session. These will not form part of this question.

[20 points]

C: DATABASE

Task:

There are two tasks in this section

1. Create a database table and import a data file
2. Create a data capture form

1. Create a database table and import a data file

Create a new database and save it with the name “GuestHouse”.

In this database create a table called “Customer”.

Import all the data from the CSV file “customer.csv” into the table you have just created.

Some records in the CSV file contain errors. You must ensure that all records are imported.

[10 points]

2. Create a data capture form

Use the database “DataCaptureForm”

Create a form in this database that can be used to capture a new booking for an existing customer.

The capture form must include all the fields on the “Booking” table.

The form must restrict entry to accept only the available values for the following fields:

- CommisionID
- BookingStatusID
- ReferredByID
- PaymentMethonID
- PaymentTypeID
- CreditCardTypeID

[10 points]

D: PERSONALISED INVOICE

Scenario:

When each guest checks out of the guest house, they are presented with a personalised invoice showing a detailed list of all the charges that occurred during their stay.

Task:

Using the spreadsheet “CustomerInvoice” and the MS Word document “CustomerInvoice” create a mail merge that will allow the guest house to print a personalised customer invoice.

[10 points]

E: REPORTS

Task:

Use the database “GuesthouseReports” to create the following reports:

1. Current Customer List
2. Total Referrals
3. Payment Report
4. Checked Out Report
5. Reservation Report

Printed examples of the reports are provided

[10 points]

Before you hand in, please ensure that you have saved the following files:

- Welcome card
- Spreadsheet Analysis
- Database
- Personalised Invoice
- Reports