**SCHOOL BASED ASSESSMENT**

Carnival has long been a traditional cultural festival in several Caribbean territories. Every year, thousands of costumed masqueraders parade through the streets, dancing to the pulsating sounds of steelband, calypso and soca. Most of these revelers register to participate in the band of their choice months before the festivities begin. Organizers of these bands must utilize management and organizational skills in order to stage a successful event. As a bandleader of one these carnival bands, you are required to utilize suitable Wordprocessing, spreadsheet, database management as well as a programming application to design and implement computer-based solutions to the tasks involved in the management of your carnival band.

**Spreadsheet**

The financial records of the band are maintained using a spreadsheet application. Both men as well as women may register to play in the band. The band must register between twenty-five (25) and fifty (50) masqueraders. The cost of costumes is quoted in US dollars. There are three types of costume available which cost $160, $220, $280 respectively. Masqueraders are given the option of paying for the costume in three equal installments, or paying the full cost in one payment. Not all masqueraders have paid all their installments. Single full payment attracts a discount of 10%, while payment by installments attracts an interest of 15%.

Each masquerader also pays an ‘Inclusive’ fee. A $150 Premium Inclusive Fee entitles the masquerader to food, non-alcoholic drinks and access to portable bathroom facilities during the carnival parade through the streets. However, a Basic Inclusive Fee of $50.00 entitles the masquerader to portable bathroom facilities and non-alcoholic drinks only.

Expenditure is incurred in the provision of several amenities for masqueraders during the carnival. The bandleader must supply food, non-alcoholic drinks, portable bathroom facilities, transportation, music, security personnel, and artiste fees. In addition, the costs of material for the manufacture of costumes as well as labour costs are incurred.

You are required to:

1.a) Design a worksheet(s) which accepts income and expenditure costs for the band.

Your worksheet must record all payments made by masqueraders, the total amount paid by each person as well as the grand total collected must be calculated. Costume payments are made in US dollars. The total payments made by each person however, must be converted to the equivalent amount in Trinidad and Tobago currency (Use the rate 1 US$ = 6.3 TT$).

b) In an appropriate row, count the number of masqueraders in the section; and calculate the total payment on costume, Inclusive fees and the total overall payment.

c) The expenditure incurred for each section must also be calculated. Food is $60.00 per person; drink is $40.00 per person; material is $150.00 per person and labour is $75.00 per person. Other services are provided at a flat rate for the entire band. These are as follows: bathroom- $3000.00; transport $2500.00; music - $4000.00; security - $1800.00; artiste - $5000.00. Calculate the total expenditure and the profit obtained.

Save your spreadsheet as **Masqueraders1.**

**2.** Modify your spreadsheet to effect the following changes:

1. Insert a masquerader before the last person in the band
2. Delete the third masquerader from the band
3. Due to inflation, the cost of food has increased by 10%. Change the initial cost to reflect his change.

Save your spreadsheet as **Masqueraders2**.

1. a) Sort the spreadsheet in ascending order by Last Name and then by First Name.

(b) In an appropriate part of your spreadsheet, create a table that shows the information for all the female masqueraders in your band.

Save your spreadsheet as **Masqueraders3.**

(c) Create a bar chart, with appropriate data labels, which shows the distribution of expenditure for the band. Name this chart BANDEXPENDITURE

Print Masqueraders1, Masqueraders2, Masqueraders3 and the chart BANDEXPENDITURE

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**Database Management**

You should use a suitable application to manage data on persons who have registered to play in your band. Personal data on each applicant, such as name, sex, address, email, date of birth,age, gender, size and telephone contact must be stored. Each masquerader has a unique identification number. Masqueraders’ payment data must also be stored. The cost of costumes should be consistent with the data in the spreadsheet. Your database should contain no more than three tables.

Create a table called “COSTUME” to store the Costume Code and the Costume Price.

You will need to:

1. Build a database to the requirements. The tables should be properly indexed. Create three tables PAYMENT, MASQUERADERS and COSTUME.

MASQUERADERS

|  |  |  |
| --- | --- | --- |
| Field Name | Field Type | Description |
| MasqueraderID | Autonumber | An automatic number assigned to a masquerader |
| LastName | Text | The surname of the masquerader |
| FirstName | Text | The first name of the masquerader |
| Title | Text | The title of the masquerader (eg. Mr. Mrs. Miss etc.) |
| E\_Mail | Text | The E\_mail of the person |
| Address | Text | The address of the owner |
| PhoneContact | Text | The telephone contact of the owner |
| Gender | Text | Whether the masquerade is Male (M) or Female (F) |
| CostumeCode | Text | The type of the costume required by the masquerader |

The database structure for the table PAYMENT is given below.

|  |  |  |
| --- | --- | --- |
| MasqueraderID | Text | An automatic number assigned to a masquerader |
| PaymentType | Text | Type of payment made by masquerade, Full or Instalment |
| Paidinfull | Yes/No | A logical field used to indicate whether the masquerade has made his/her payment in full. |
| Amtdue | Currency | The amount of money owing by the masquerader |

1. Populate your database files with information consistent with the spreadsheet on the persons registered in the band.
2. Delete the Age field from the table MASQUERADERS.

d) Test your data by running the following queries

i) List the names, phone numbers and costume type of all the female members of the band. Name this query FEMALES. Sort this information in alphabetical order by last name and then by first name.

ii) List the names of all the people who have not paid all their instalments and and the type of costume they purchased. Name this query OWING.

iii) List the total amount outstanding for costumes. Name this query OUTSTANDING.

iv) Update the amount outstanding by the masqueraders by adding 10% interest for late payments.

1. Generate a report which includes the name of the Masquerader Name, the costume type he/she purchased, the cost of the costume and the amount he/she owes. Show also the total number of masqueraders for each costume type. This report should be grouped by Costume Type, and sorted in alphabetical order by Last Name, then by First Name. Name this report MASQUERADER DISTRIBUTION.

**Wordprocessing**

1. Create a full page an advertisement for a local newspaper that informs the public about your carnival band. This must be designed on letter size paper using landscape orientation.
2. a) Using your wordprocessing application, create a document which should be mailed to all persons. The document should be justified and the left margin must be 1.5”. A reminder should be included to all those who have not completed payment for their costumes. Insert the query OWING in the document. The document should also inform masqueraders of the parade route, the time of assembly and departure of the band onto the parade.

The final paragraph should express to the gratitude to the masquerades for choosing to join his band for the carnival celebrations.

1. Design a suitable letterhead for your document which should be placed in a header.

1. Use different font styles and sizes wherever is appropriate in your design of the letter.
2. Ensure that your documents have been spell-checked and is suitable for sending to the various individuals.
3. Print the main document, the secondary document, the first and the last merged letters.

**Problem-Solving**

1. Construct a psuedcode algorithm or flowchart that accepts as input the number of the masqueraders in the band together with the names of the masqueraders and the costume type each masquerader purchased. The algorithm should count the number of masqueraders parading in each costume type. The costume type together with their respective count of masqueraders should be printed. The algorithm should take into consideration invalid costume types entered and print an appropriate message together with the respective name of the masquerader.
2. Using sample data from your database, make a random listing of persons and their costume type. No more than ten (10) persons should be selected and include two (2) persons with an invalid costume type. Using this listing, design a trace table that traces the number of masqueraders parading in each costume type.

**Program Implementation**

Using the programming language Pascal, write program code to implement the algorithm in (1).