Friends In Need

Database Case **Difficulty Rating:** ★★

SKILLS CHECK
You should review the following areas:

DATABASE SKILLS

- ✓ **Aggregate Function**
- ✓ **AutoLookup Query**
- ✓ **Combo Box**
- ✓ **Command Button**
- ✓ **Form Design**
- ✓ **Form Wizard**
- ✓ **Label Wizard**
- ✓ **Relationship**
- ✓ **Report Design**
- ✓ **Report Wizard**
- ✓ **Select Query**
- ✓ **Table Design**

CASE BACKGROUND

Friends in Need is a well-respected charitable organization, often mentioned in the press for providing outstanding charitable services to local families. Currently, Friends in Need has a staff of 10 volunteers, including Roman Kieffer, who serves as the organization's director. Since the charitable organization's founding five years ago, the number and type of donations have continued to increase, necessitating changes in the way donations are currently tracked and distributed.

Although the donation and distribution processes are simple in concept, paperwork is mounting. Currently, Mr. Kieffer keeps the charity's records in spiral notebooks, and he needs a better method for tracking donors and distributing donations to qualifying families. Recently the Byrd Corporation donated the necessary hardware and software needed to create a computerized information system for Friends in Need. Mr. Kieffer asks you to organize and automate the charity's record-keeping activities. You will build and populate Donor, Donation, and Type tables; create New Donor and New Donation forms; prepare mailing labels and a Weekly Donations report; create relationships; and construct several queries.

CASE SCENARIO

One evening five years ago, Roman Kieffer watched a news program that discussed how several local families were having difficult times and unable to give their children Christmas presents. In an effort to help these families, Mr. Kieffer and several friends organized a charity drive, collecting toys, clothing, monetary gifts, and food items. The donations were then distributed to deserving families. The charity drive was so successful that Mr. Kieffer founded the Friends in Need charitable organization.

Since the charity's founding five years ago, the donation process has remained simple. When a donor makes a contribution, he either mails a check or drops by the Friends in Need Center. When a donation is made, a staff member records the donor's name, address, and phone number on a donation form, along with details about the donation. A receipt is then given to the donor. If the donor wishes to remain anonymous, the word "anonymous" is written across the donation form. Monetary donations are deposited in a local bank, while non-monetary donations are sorted according to type. Each week, the Friends in Need committee evaluates assistance requests. Donations are then distributed to qualifying families, based on type of need.

Currently, all record keeping is tedious, inefficient, time consuming, and manually performed. The manual, paper-based system is no longer adequate. As the newest Friends in Need volunteer, Mr. Kieffer asks you to build the Friends database. In order to construct the Friends database to Mr. Kieffer's specifications, you will build and populate Donor, Donation, and Type tables; design New Donor and New Donation forms; prepare mailing labels and a Weekly Donations report; create several relationships; and construct several queries.

Storage Specifications

After meeting with Mr. Kieffer and reviewing the forms and reports currently used by the charity, you decide the Friends database should have three tables: Donor, Donation, and Type. (Your professor will provide you with the data to populate the Donor and Donation tables.) The Donor table stores the donor's identification number, type, first and last name, company name, address, and phone number. The DonorType field indicates whether or not the donor is a company or individual. When a company makes a donation, the DonorType field is checked, indicating that the donor is a company. Information about the company's contact person is then entered into the LastName and FirstName fields. If an individual makes a donation, the company name field is left blank, and all other fields are completed. The DonorID field serves as the primary key. Table 1 shows the structure for the Donor table.

The Donation table stores data about each donation. After studying your notes about the donation process, you decide the Donation table should use the structure shown in Table 2. Since a donor can make several donations on any given day, you decide to create a field called DonationID. This field serves as the primary key. For each donation, Mr. Kieffer wants to record the donation's approximate worth. You create an AppWorth field to hold this data.

Table 3 shows the structure for the Type table. The Type table stores type codes and brief descriptions about the kinds of donations accepted by the organization. Once the Type table is created, you use the data from Table 4 to populate the table.

Two relationships are necessary. First, you create a relationship between the Donor and Donation tables. Since the Donor and Donation tables have a DonorID field, you decide to use this common field to create a relationship between these two tables. Second, a relationship between the Donation and Type tables is required. As you study the Donation and Type tables, you notice that these tables both have a TCode field. You use this common field to create a relationship between the Donation and Type tables. For each relationship, you enforce referential integrity.

Table 1: Donor Table Structure

Field Name	Data Type	Field Description	Field Size	Comments
DonorID	AutoNumber	Is a unique number assigned to each donor. Serves as primary key.	Long Integer	Is required.
DonorType	Yes/No	Indicates whether the donor is a company or individual. "Yes" represents a company. Set the default value to "No."	Yes/No	Is required.
LastName	Text	Stores the donor's last name or the contact person's last name.	50	Is required.
FirstName	Text	Stores the donor's first name or the contact person's first name.	25	Is required.
CompanyName	Text	Stores the company's name.	50	
SAddress	Text	Stores the street address for the individual or company.	50	Is required.
City	Text	Stores the city for the individual or company. Set the default value to "Chicago."	25	Is required.
State	Text	Stores the state abbreviation for the individual or company. Set the default value to "IL."	2	Is required.
Zip	Text	Stores the zip code for the individual or company.	10	Is required.
Phone	Text	Stores the donor's phone number. Uses an input mask.	10	

Table 2: Donation Table Structure

Field Name	Data Type	Field Description	Field Size	Comments
DonationID	AutoNumber	Serves as the primary key.	Long Integer	Is required.
DonorID	Number	Is the donor identification number of the individual or company making the donation.	Long Integer	Is required.
DDate	Date/Time	Stores the date the donation was made. Uses Short Date as the format.		Is required.
TCode	Text	Stores the donation type code.	4	
AppWorth	Currency	Stores the approximate worth of the donation. Uses a standard format.		
Comments	Memo	Stores comments about the donation.		

Table 3: Type Table Structure

Field Name	Data Type	Field Description	Field Size	Comments
TCode	Text	Serves as the primary key.	4	Is required.
TDescription	Text	Provides a brief description of the type.	25	Is required.

Table 4: Type Table Records

TCode	TDescription
T1	Monetary
T2	Food
T3	Clothing
T4	Toys
T5	Other

Input Specifications

When a new donor makes a contribution, the New Donor form captures contact information; this information is then stored in the Donor table. The contact information enables the charity to contact the donor about upcoming events and send out thank you letters for current and future donations.

Mr. Kieffer wants information about each donation captured and stored in the database. The company captures the donor's identification number, donation date, donation type, the donation's approximate worth, and comments.

Information Specifications

Each Monday, Mr. Kieffer sends thank you letters to the individuals and companies who made donations the previous week. As donor addresses are now stored in the database, you decide to generate mailing labels for him. You prepare a select query that retrieves contact information for the previous week's donors and sorts the donor last names in ascending order.

DonationType		Approiate Worth
Clothing		$30.00
		$15.00
		$5.00
Fo		$50.00
	12	$10.00

Mr. Kieffer requires answers for the following questions. Build queries to help Mr. Kieffer answer these questions. If you choose, you may generate reports based on these queries.

1. Which donation type is most popular? Mr. Kieffer wants a count for each donation type. Show only the type descriptions (TDescription) and their counts. No other fields should be shown.

2. How many companies made donations last week? (Use October 13, 2008, as the beginning date for the previous week.)

3. Which of the charity's donors made contributions worth more than $500.00? For each donor, show the first and last name, company name (if applicable), and approximate worth of the contribution.

4. Who are the contact persons for the companies that have contributed to the charity? Show the company name and then the first and last name of the contact person. Sort the information in ascending order based on company name.

5. On average, what is the approximate worth of the donations made last week? (Use October 13, 2008, as the beginning date for the previous week.)

6. Mr. Kieffer wants a Daily Donor Query The Daily Donor Report should alphabetically list the daily donors and identify the type of donation that was made by the donor. Mr. Kieffer requests that information about anonymous donors and donations be left out of the report. (Use October 16, 2008, as the query date.)

Implementation Concerns

For this case, you design and populate Donor, Donation, and Type tables; create several queries; and establish relationships between tables.

As mentioned in the Storage Specifications section, you create relationships between the Donor and Donation tables and the Donation and Type tables. For each relationship, you should enforce referential integrity.

Since thank you letters are sent to donors for the previous week, you need a select query to identify these donors. .

Test Your Design

After creating the tables, relationships, and queries, you should test your database design. Perform the following transactions:

1. The charity has several new donors. Enter their contact information and contributions into the database.
   - Bobak Nazar donated $450.00 on October 20, 2008. His contact information is 1220 Hemingway Drive, Chicago, IL 60661. Also, enter the following comment: "A check for $247 was provided, along with $203 in cash." Bobak's phone number is (312) 337-2552.
   - Kwai Chang donated approximately $100 in food items on October 20, 2008. His contact information is 17493 Kelley Drive, Chicago, IL 60664. His phone number is (312) 337-9988.
   - Carmelo Pereles donated approximately $250 in baby clothes on October 21, 2008. Her contact information is 3321 Beverly Drive, Chicago, IL 60667. Also, enter the following comment: "The clothes range in size from newborn to toddler." Carmelo's phone number is (312) 335-1801.

2. Enter the following contributions for existing donors into the Friends database:
   - On behalf of Lancaster Paints, Robin Bibb donated $5,000 in cash, $3,000 in food items, and $2,500 in clothing to the charity on October 20, 2008.

- On behalf of Betty's Interior Designs, Catrina Stanton donated $1,557.74 in cash, $750.00 in toys, and $32.30 in clothing to the charity on October 21, 2008. Also, enter the following comment: "The toys are most appropriate for children over the age of three."

CASE DELIVERABLES

In order to satisfactorily complete this case, you should build the database and then prepare a written memo. Unless otherwise specified, submit the following deliverables to your professor.

1. An electronic, working copy of your database that meets the criteria mentioned in the case scenario and specifications sections.

2. Results for each query. (A memo to your instructor discussing these results should also be provided and it should include any assumptions.)