

Address Book

The Address Book is organized into a set of four tables [contact_master, address_master, phone_master, and date_master]. Each of these tables are used to store the unique entites of a contact. The contact_master serves as the basic/master table which holds the first name, middle name and the last name of the user in addition to the uniquely identifying field contact_id. The address_master is used to store the address of a user. It is worth mentioning that a user may have more than one addresses, and it uses the contact_id of the contact_master as the foreign key in addition to a primary key phone_id. Similarly, the phone_master and the date_master stores the phone numbers and dates (birthday, anniversary, etc.) of the user.

Fields and the associated data types are listed below:

1. Contact_master:
 - a. Contact_id: Primary key for the contact_master table. Used to uniquely identify a contact stored in the address book. *Data Type: Integer.*
 - b. Fname: First name of the contact. *Data Type: String.*
 - c. Mname: Middle name of the contact. *Data Type: String.*
 - d. Lname: Last name of the contact. *Data Type: String.*
2. Address_master:
 - a. Address_id: Primary key for the address_master table. Can be used to identify an address record in the address_master table. *Data Type: Integer.*
 - b. Contact_id: Foreign key for the contact_master table. Used to retrieve all the details that are associated with a particular contact. *Data Type: contact_master instance.*
 - c. Address_type: Type of the address. *Data_type: String.*
 - d. Address: Address of the contact's address. *Data_type: String.*
 - e. City: City of the contact's address. *Data_type: String.*
 - f. State: State of the contact's address. *Data_type: String.*
 - g. Zip: Zip of the contact's address. *Data_type: String.*
3. Phone_master
 - a. phone_id: Primary key for the phone_master table. Can be used to identify a phone record in the phone_master table. *Data Type: Integer.*
 - b. Contact_id: Foreign key for the contact_master table. Used to retrieve all the details that are associated with a particular contact. *Data Type: contact_master instance.*
 - c. phone_type: Type of the phone number. *Data_type: String.*
 - d. Area_code: area_code of the contact's phone number. *Data_type: String.*
 - e. Number: number field of the contact's number. *Data_type: String.*
4. Date_master
 - a. date_id: Primary key for the date_master table. Can be used to identify a date record in the phone_master table. *Data Type: Integer.*
 - b. Contact_id: Foreign key for the contact_master table. Used to retrieve all the details that are associated with a particular contact. *Data Type: contact_master instance.*
 - c. date_type: Type of the phone number. *Data_type: String.*
 - d. Date: date field of the contact's date. *Data_type: String.*

Assumptions made by the model:

1. A user can have multiple phone numbers (cell, home, fax, etc.) but a phone number cannot be associated with more than one user. i.e. two users can't have the same phone number
2. The phone number must be of the format area_code-number{3}-number{4}
3. A user can have more than one addresses.