Forge Launch Skills Challenge - Part 1

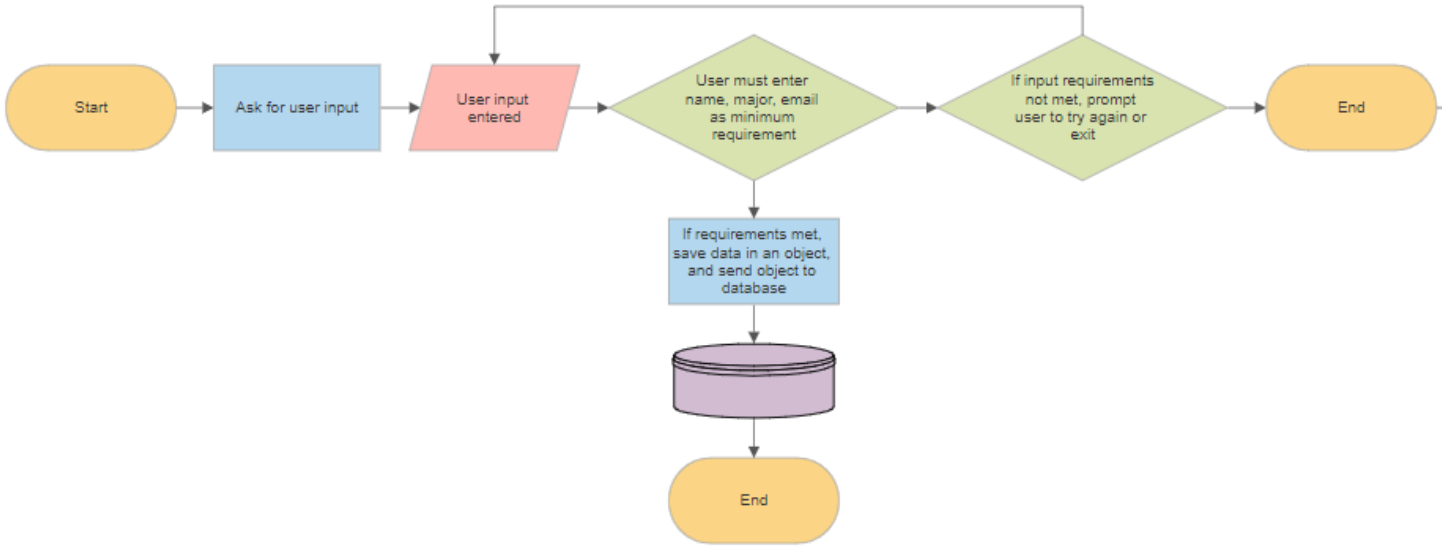
Question B:

Relational databases are used to store, manage, and analyze informational data in an efficient manner. In order for relational databases to be effective, they must be organized in a way where all data is easily stored/accessible.

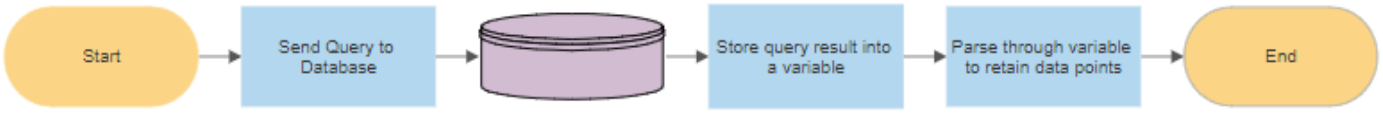
When designing a relational database that stores information on college students it is important to keep track of various factors. In this case, the database stores data points like major, minor, gpa, clubs, dorm, name, age, birthplace, phone, and email. The majority of data points are not necessary to create a student object (to store in the database), but characteristics like name, major, and email are necessary. All characteristics are stored in "personal" or "academic" objects with key-value pairs, making it easy to access individual data points. Data keys with multiple values have their own dictionary key-value pairs to help with management. For example, the value for the key "clubs" is a dictionary of string club names (key) and string arrays with links and descriptions (value). The separation of personal (name, age, email phone, birthplace, etc.) and academic (major, minor, year, gpa, dorm, clubs, etc.) objects prevents users from searching through large lists of data. This also makes it easier to access specific subsets of students. Each personal and academic object is stored in a "student" object. The student objects are given IDs to make the process of accessing a specific student's data seamless.

By designing the database in this way, users will be able to store and access data in the following way:

1. Storing Data



2. Getting Data


Start
Send Query to Database
Store query result into a variable
Parse through variable to retain data points
End