**Homework #4**

**CECS 378 – Spring 2021 Cappel**

**Due:** Wednesday, March 10th prior to class (11:59 PM)

**Homework #4 is focused on database and data center security.**

**There are 5 total questions all worth 20 points each (100 pts total).**

**Chapter 5 – Database and Data Center Security**

1. Define the terms *database*, *database management system*, and *query language*.
2. List and briefly describe some administrative policies that can be used with a RDBMS.
3. What are the disadvantages of database encryption?
4. The following table provides information on members of a mountain climbing club:

|  |  |  |  |
| --- | --- | --- | --- |
| **Climber-ID** | **Name** | **Skill Level** | **Age** |
| 123 | Edmund | Experienced | 80 |
| 214 | Arnold | Beginner | 25 |
| 313 | Bridget | Experienced | 33 |
| 212 | James | Intermediate | 27 |

The primary key is *Climber-ID*. Explain whether or not each of the following rows can be added to the table. If a row cannot be added, explain why not.

|  |  |  |  |
| --- | --- | --- | --- |
| **Climber-ID** | **Name** | **Skill Level** | **Age** |
| 214 | Abbot | Intermediate | 40 |
|  | John | Experienced | 19 |
| 15 | Jeff | Intermediate | 42 |

1. The following table shows a list of pets and their owners that is used by a veterinarian service.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **P\_Name** | **Type** | **Breed** | **DOB** | **Owner** | **O\_Phone** | **O\_E-mail** |
| Kino | Dog | Poodle | 3/27/07 | M. Downs | 5551236 | md@abc.com |
| Teddy | Cat | Chartreaux | 4/2/08 | M. Downs | 1232343 | md@abc.com |
| Filo | Dog | Poodle | 2/24/02 | R. James | 2343454 | rj@abc.com |
| AJ | Dog | Collie Mix | 11/12/05 | Liz Frier | 3456567 | liz@abc.com |
| Cedro | Cat | Unknown | 12/10/06 | R. James | 7865432 | rj@abc.com |
| Woolley | Cat | Unknown | 10/2/10 | M. Trent | 9870678 | mt@abc.com |
| Buster | Dog | Collie | 4/4/11 | Ronny | 4565433 | ron@abc.com |

1. Describe four problems that are likely to occur when using this table.
2. Break the table into two tables in a way that fixes the four problems.