Vishal Maru

Assignment 2 – IT 340

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1. Create a data model using the specialization hierarchy. Save the ERD as a PDF. State your assumptions about business rules in a Word document. (50 points)

Business Rules:

1. An employee is either an inspector or a normal employee.
2. An employee either has zero or many dependents.
3. An Inspector has one certification date and renewal date.
4. All dependents are associated with one and only one employee.
5. Create the 3NF tables and relationships in Access. The Word file should provide your rationale for each normalized form. State your assumptions about business rules, if any. (50 points)

UNF and 1NF

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| emp\_num | emp\_name | hire\_date | title | SSN | certification\_date | renwal\_date | dependent\_date |
|  |  |  |  |  |  |  |  |

1. All rows are uniquely identified by PK emp\_num
2. No columns are repeated
3. Each cell is single valued

2NF

All non-keys (like certification\_date) depend on PK emp\_num

Employee

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| emp\_num | emp\_name | hire\_date | title | SSN | certification\_date | renewal\_date |
|  |  |  |  |  |  |  |

Dependent

|  |  |
| --- | --- |
| emp\_num | dep\_name |
|  |  |

3NF

Certification\_date and renewal\_date depend on title

Employee

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| emp\_num | emp\_name | hire\_date | title | SSN |
|  |  |  |  |  |

Dependent

|  |  |
| --- | --- |
| emp\_num | dep\_name |
|  |  |

Inspector

|  |  |  |
| --- | --- | --- |
| emp\_num | certification\_date | renewal\_date |
|  |  |  |