ASSIGNMENT # 1

DATA BASE MANAGEMENT SYSTEM

SEMISTER 4th

TOPIC:VIDEO RENTAL SYSTEM

BUSSINESS RULE:

* **The video rental company has several branches throughout the country.**
* **Manager may manage only one staff and manager may manage other staff members**
* **Manager may manage only one local branch**
* **A staff may work at more than one branch**
* **The data held on a video is the catalogue number.**
* **The catalogue number uniquely identifies each video.**
* **However, in most cases, there are several copies of each video at a branch, and the individual copies are identified using the video number.**
* **A video is given a category such as Action.**
* **The status indicates whether a specific copy of a video is available for rent.**
* **Before hiring a video from the company, a customer must first register as a member of a local branch.**
* **Once registered, a member is free to rent videos, up to a maximum of ten at any one time.**
* **The dates the video is rented out and date returned.**

ENTITY REALATIONSHIP DIAGRAM (ERD):

Identify Entities:

1. Staff
2. Branch
3. Video
4. Customer

Identify Relationship:

1. Each branch is allocated number of staff member, including a manger.

manages

BRANCH

STAFF

work\_in

BRANCH

STAFF

1. Each branch has a stock of videos.

contains

BRANCH

VIDEOS

1. A customer must first register as a member of a local branch.

CUSTOMER

Register\_a

BRANCH

1. Once registered, a member is free to rent videos.

rent

CUSTOMER

VIDEOS

Sketch ERD:

manages

work\_in

BRANCH

STAFF

Register\_a

video

VIDEO

rent

CUSTOMER

State cardinality constraint:

1. Each branch is allocated number of staff member, including a manger.

1 1

manages

BRANCH

STAFF

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1 1

BRANCH

STAFF

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contains

BRANCH

VIDEOS

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CUSTOMER

1 M

Register\_a

BRANCH

1. Once registered, a member is free to rent videos.

rent

CUSTOMER

1 M

VIDEOS

IDENTIFY PRIMARY KEY FOR EACH ENTITY:

|  |  |
| --- | --- |
| Customer | Customer\_no |
| STAFF | Staff\_no |
| BRANCH | Branch\_no |
| VIDEO | Catalogue\_no |

Add attribute of each entity:

|  |  |
| --- | --- |
| STAFF | Staff\_no,name,position ,salary,manager\_no |
| BRANCH | Branch\_no,address,city,state,zipcode,street,telephone,staff\_no |
| VIDEOS | Catalogue\_no,video\_no,title,daily\_rental,cost,category,branch\_no,vidio rental\_order |
| Customer | Member\_no,first\_name,last\_name,address,date\_register,branch\_no |

Complete ER Diagram:

manages

1 1

workin

BRANCH

STAFF

1 1

video

VIDEO

CUSTOMER

M

M

Register\_a

N

1 M

rent

1 N