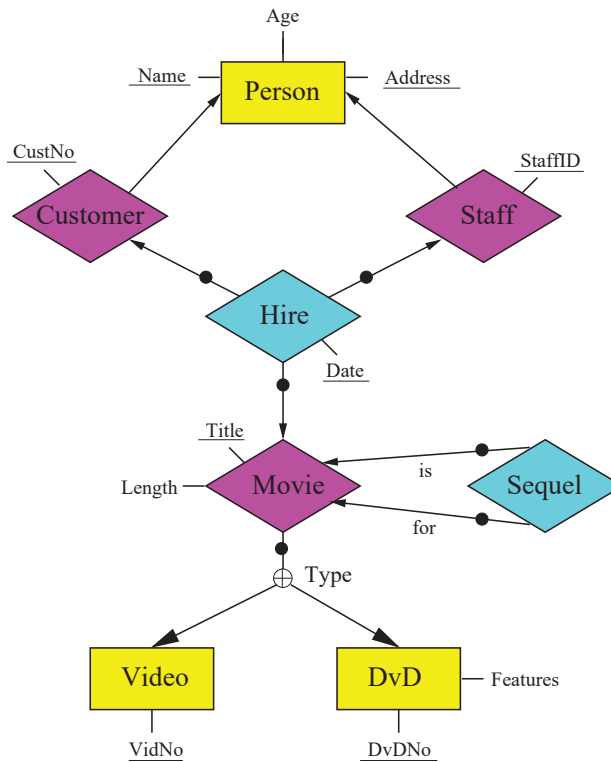


1 HERM-Diagram



2 EERM-Schema

Level 0:

PERSON=({Name, Age, Address}, {Name, Address})

VIDEO=({VidNo}, {VidNo})

DVD=({DvDNo, Features}, {DvDNo})

Cluster of Level 1:

TYPE=VIDEO \oplus DVD

Level 1:

CUSTOMER=({PERSON}, {CustNo}, {CustNo})

STAFF=({PERSON}, {StaffID}, {StaffID})

Level 2:

MOVIE=({TYPE}, {Title, Length}, {Title, TYPE})

Level 3: HIRE=({CUSTOMER, STAFF, MOVIE}, {Date}, {CUSTOMER, STAFF, MOVIE, Date})

SEQUEL=({is:MOVIE, for:MOVIE}, \emptyset , {is:MOVIE, for:MOVIE})

3 RDM Schema

PERSON={Name, Age, Address} with minimal key {Name, Address}

VIDEO={VidNo} with minimal key {VidNo}

DVD={DvDNo, Features} with minimal key {DvDNo}

VIDEO_MOVIE={Title, Length, VideoNo}

minimal key {Title, VideoNo}

foreign key [VideoNo] \subseteq VIDEO[VidNo]

DVD_MOVIE={Title, Length, DvDNo}

minimal key {Title, DvDNo}

foreign key [DvDNo] \subseteq DVD[DvDNo]

CUSTOMER={CustNo, CustName, CustAddress}

minimal key {CustNo}

foreign key [CustName, CustAddress] \subseteq PERSON[Name, Address]

STAFF={StaffID, StaffName, StaffAddress}

minimal key {StaffID}

foreign key [StaffName, StaffAddress] \subseteq PERSON[Name, Address]

SEQUEL_VIDEO={IsSequel_VideoTitle, IsSequel_VideoNo, For_VideoTitle, For_VideoNo}

minimal key SEQUEL_VIDEO

foreign keys:

[IsSequel_VideoTitle, IsSequel_VideoNo] \subseteq VIDEO_MOVIE[Title, VideoNo] and

[For_VideoTitle, For_VideoNo] \subseteq VIDEO_MOVIE[Title, VideoNo]

SEQUEL_DVD={IsSequel_DvDTitle, IsSequel_DvDNo, For_DvDTitle, For_DvDNo}

minimal key SEQUEL_DVD

foreign keys:

[IsSequel_DvDTitle, IsSequel_DvDNo] \subseteq DVD_MOVIE[Title, DvDNo] and

[For_DvDTitle, For_DvDNo] \subseteq VIDEO_MOVIE[Title, DvDNo]

HIRE_VIDEO={CustomerNo, StaffID, VideoTitle, VideoNo, Date}

minimal key HIRE_VIDEO and

foreign keys

[CustomerNo] \subseteq CUSTOMER[CustNo],

[StaffID] \subseteq STAFF[StaffID] and

[VideoTitle, VideoNo] \subseteq VIDEO_MOVIE[Title, VideoNo]

HIRE_DVD={CustomerNo, StaffID, DvDTitle, DvDNo, Date}

minimal key HIRE_DVD and

foreign keys:

[CustomerNo] \subseteq CUSTOMER[CustNo],

[StaffID] \subseteq STAFF[StaffID] and

[DvDTitle, DvDNo] \subseteq DVD_MOVIE[Title, DvDNo]