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**DATABASES**

October 2022 -- February 2023

**SCHOOL OF INFOCOMM TECHNOLOGY**

Diploma in Information Technology

Diploma in Data Science

**Databases Assignment (40 % of DB Module)**

**8 Jan 2024 – 28 Jan 2024 (3 Weeks)**

|  |  |  |
| --- | --- | --- |
| Deliverables | Deadline | Submission |
| Softcopy | Sunday 28 Jan 2024, 23:59 pm | BrightSpace Assignment  Submission link |
| Hardcopy | Monday 29 Jan 2024, 10:00 am | Blk 31 Level 8 (Admin  Office),  Pigeon-holes (Databases) |

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| --- | --- | --- | --- |
| DB Class Group | | DB T05 |  |
| Team Number | | Group 2 | Team Grade: |
| Tutor | | Siti-Hartono Alice |  |
| Members | Student No. | Student Name | Individual Grade |
| S10260423C | Cheong Zhi Xun |  |
| S10258774E | Pey Zhi Xun |  |
| S10257825A | Chang Guan Quan |  |
| S10259930H | S.Sairam |  |
| S10259469C | Keshwindren Gandipanh |  |

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S/N Relation

1 Account (AccID, AccName, AccAddress, AccCtcNo, AccEmail, <CondoID>, <ApprovedBy>)

2 Announcement (AnnID, AnnText, AnnStartDate, AnnEndDate, <CondoMgmtID>)

3 Booking (BookingID, BookingDate, BookingStatus, <AccID>, <FacID, TimeSlotSN, SlotDate>)

4 BookSlot(<FacID, TimeSlotSN>, SlotDate, SlotStatus)

5 Condo (CondoID, CondoName, CondoAddress)

6 CondoMgmt (<CondoMgmtID>, ContactPerson, CtcPersonMobile)

7 CondoUsefulContact (<CondoID>, <UsefulCtcID>)

8 ContactCat (CtcCatID, CtcCatDesc)

9 Facility (FacID, FacName, Deposit, <CondoID>)

10 FacTimeSlot (<FacID>, TimeSlotSN, SlotDesc)

11 Feedback (FbkID, FbkDesc, FbkDateTime, FbkStatus, <ByAccID>, <FbkCatID>, <CondoMgmtID>)

12 FeedbkCat (FbkCatID, FbkCatDesc)

13 ItemCategory (ItemCatID, ItemCatDesc)

14 ItemPhoto (<ItemID>, Photo)

15 ItemRelated (<ItemID>, ItemDesc, ItemPrice, ItemStatus, SaleOrRent, <ItemCatID>)

16 Likes ( <AccID>, <MessageID>)

17 Message (MsgID, MsgText, MsgType, <PostedBy>, <ReplyTo>)

18 Owner (<OwnerID>, OwnStartDate, <CheckedBy>)

19 Staff (StaffID, StaffName, StaffContactNo, StaffDateJoined, StaffRole)

20 TempVehLabel (<VehLblAppID>, TempStartDate, TempExpiryDate)

21 Tenant (<TenantID>, ContractStartDate, ContractEndDate, <VerifiedBy>)

22 UsefulContact (UsefulCtcID, UsefulCtcName, UsefulCtcDesc, UsefulCtcPhone, <CtcCatID>)

23 Vehicle (VehicleNo, IUNo, Ownership, Make, Model)

24 VehicleLabel (VehLblAppID, VehLblStatus, VehLblNum, <VehicleNo>,<AppliedBy>, <IssuedBy>)

**Individual SQL Queries**

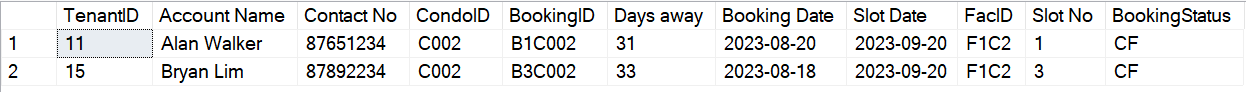
**Cheong Zhi Xun (S10260423C)**

**Pey Zhi Xun (S10258774E)**

**Chang Guan Quan (S10257825A)**

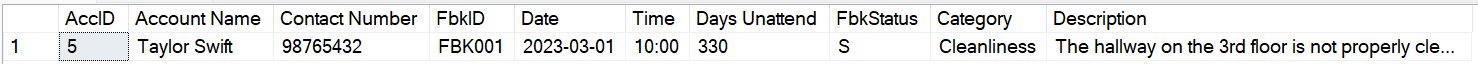
1. Purpose: **Allows Tenants to check their bookings details.**

List the details (TenantId, Account Name, Contact No, CondoID, BookingID, Days away, Booking Date, Slot Date, FacID, FacID, BookingStatus) of Tenants and bookings who booked the Facility, “Swimming Pool” in Condo, “C001” and “C002” in the month of September.



1. Purpose: **Allows Condo Management to check and deal with feedback regarding the cleanliness of the condo that is not resolved or attended to within a few days**

List the details (AccID, Account Name, Contact No, FbkID, Date, Time, Days Unattend, FbkStatus, Category, Description) of Tenants, Condo, Feedback and Condo Management for least 2 feedback regarding the “Cleanliness” is not resolved over 5 days for each condo. It is also sorted by decreasing number of days unattended.



1. Purpose: **Allows Condo Management to check which type of car ownership is more popular in each condo.**

List the details (CondoID, Name, Condo Name, Ownership, Number of Cars) of the number of cars in each condo that is owned, rented and for company use which are approved by the Condo Management.

A table with a list of names

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**S.Sairam (S10259930H)**

**Keshwindren (S10259469C)**

1. Account Relation: Stores the details of an account holder

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| AccID | Unique account ID | smallint | Primary Key | No |
| AccName | The name of the account holder | varchar(50) |  | No |
| AccAddress | The home address of the account holder | varchar(150) |  | Yes |
| AccCtcNo | The contact number of the account holder | char(8) | unique | Yes |
| AccEmail | The email address of the account holder | varchar(50) | unique | No |
| CondoID | The condo that the account is related to | char(10) | Foreign Key à Condo (CondoID) | No |
| ApprovedBy | The staff ID of MyCondo staff who approves the account | smallint | Foreign Key à  Staff (StaffID) | Yes |

2. Announcement Relation: Stores the details of an announcement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| AnnID | Unique announcement ID | char(10) | Primary key | No |
| AnnText | The text message of the announcement | text |  | No |
| AnnStartDate | The date when the announcement starts | date | Default set to current date | No |
| AnnEndDate | The date when the announcement ends | date | AnnEndDate later than the AnnStartDate | No |
| CondoMgmID | The account ID of the condo management who put the announcement | smallint | Foreign key ->  CondoMgmt (CondoMgmtID) | No |

3. Booking: Stores the details of a facility booking

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| BookingID | Unique booking ID | char(10) | Primary Key | No |
| BookingDate | The date when the booking is made | date | BookingDate not later than SlotDate | No |
| BookingStatus | The status of the booking (eg. Pending Payment, Confirmed, Cancelled) | char(2) | Values :  PP for “Pending Payment”,  CF for “Confirmed”,  CC for “Cancelled” | No |
| AccID | The account ID of the person who makes the booking | smallint | Foreign Key à Account (AccID) | No |
| FacID | The facility ID that is being booked | char(10) | Foreign Key à  BookSlot (FacID, TimeSlotSN, SlotSN) | No |
| TimeSlotSN | The facility's time slot number that is being booked | tinyint | Foreign Key à  BookSlot (FacID, TimeSlotSN, SlotSN) | No |
| SlotDate | The date when the facility time slot is being booked | date | Foreign Key à  BookSlot (FacID, TimeSlotSN, SlotSN) | No |

4. BookSlot: Stores the details of dates that facility time slot can be booked

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| FacID | Unique facility ID that has the time slot | char(10) | Primary Key  Foreign Key à  FacTimeSlot  (FacID ,TimeSlotSN) | No |
| TimeSlotSN | The sequence number of a time slot (eg. 1, 2, …) | tinyint | Primary Key  Foreign Keyà  FacTimeSlot (FacID ,TimeSlotSN) | No |
| SlotDate | The date when a the facility time slot can be booked | date | Primary Key | No |
| SlotStatus | The status of the slor (Eg. Available, Booked, Maintenance) | char(1) | Values:  A for Available,  B for Booked,  M for Maintenance | No |

5. Condo: Stores the details of a condominium project

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| CondoID | Unique condo ID | char(10) | Primary Key | No |
| CondoName | The name of the condo | varchar(50) |  | No |
| CondoAddress | The address of the condo | varchar(150) | unique | No |

6. CondoMgmt Relation: A subtype of Account: stores the additional account details for a condo management company

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| CondoMgmtID | The account ID of the company (or its staff) that manages a condo | smallint | Primary key  Foreign Key à Account (AccID) | No |
| ContactPerson | The contact person of the condo management company | varchar(100) |  | No |
| CtcPersonMobile | The mobile number of the contact person | char(8) | unique | No |

7. CondoUsefulContact Relation: Stores the details of a condo's useful contact. Useful contacts usually are businesses near the condo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| CondoID | Unique ID of a condo | char(10) | Primary Key  Foreign Key à Condo (CondoID) | No |
| UsefulCtcID | Unique ID of a condo's useful contact | char(10) | Primary Key  Foreign Keyà  UsefulContact (UsefulCtcID) | No |

8. ContactCat Relation: Stores the details of a category that a useful contact can belong to

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| CtcCatID | Unique category ID of a useful contact | char(10) | Primary key | No |
| CtcCatDesc | The description of a useful contact category | varchar(200) |  | No |

9. Facility Relation: Stores the details of a condo facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| FacID | Unique facility ID | char(10) | Primary Key | No |
| FacName | The name or description of the facility (Eg. Tennis Court, BBQ Pit, Function Room) | varchar(100) |  | No |
| Deposit | The amount of deposit required to book the facility, if any | smallmoney |  | Yes |
| CondoID | The condo where the facility is located in | char(10) | Foreign Key à Condo (CondoID) | No |

10. FacTimeSlot Relation: Stores the details of a time slot that is scheduled by a facility for booking purpose

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| FacID | Unique facility ID that has the time slot | char(10) | Primary Key  Foreign Keyà  Facility (FacID) | No |
| TimeSlotSN | The sequence number of a time slot (eg. 1, 2, …) | tinyint | Primary Key | No |
| SlotDesc | The time slot's description, eg. Morning, Afternoon, 9am-10am, 2pm-4pm | varchar(100) |  | No |

11. Feedback Relation: Stores the details of a time slot that is scheduled by a facility for booking purpose

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| FbkID | Unique feedback ID | char(10) | Primary key | No |
| FbkDesc | The description/text of the feedback | text |  | No |
| FbkDateTime | The date and time when the feedback is sent | datetime | FbkDateTime not later than today | No |
| FbkStatus | The status of the feedback (eg. Sent, In Progress, Attended) | char(1) | Values:  S for Sent,  P for  In Progress,  A for  Attended | No |
| ByAccID | The account ID of the person who sends the feedback | smallint | Foreign key ->  Account  (AccID) | No |
| FbkCatID | The category ID that the feedback is grouped under | char(10) | Foreign key ->  FeedbkCat  (FbkCatID) | No |
| CondoMgmID | The account ID of the condo management staff who handles the feedback | smallint | Foreign key ->  CondoMgmt (CondoMgmtID) | Yes |

12. FeedbkCat Relation: Stores the details of a feedback categories

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| FbkCatID | Unique feedback category ID | char(10) | Primary Key | No |
| FbkCatDesc | The description of a feedback category (eg. Cleanliness, Security, Plumbing, Building defects, etc) | varchar(50) |  | No |

13. ItemCategory Relation: Stores the details of a category of item posted by an account holder

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| ItemCatID | Unique item category ID | char(10) | Primary Key | No |
| ItemCatDesc | The description of an item category (eg. Homeware, Fashion, Furniture, Electronics, etc) | varchar(50) |  | No |

14. ItemPhoto Relation: Stores the photos of an item

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| ItemID | Unique item ID | char(10) | Primary Key  Foreign Keyà  Message (MsgID) | No |
| Photo | A photo of the item (note: don’t need to include actual photo, but just put text "photo 1", "photo 2",  etc) | varchar(20) | Primary Key | No |

15. ItemRelated Relation: A subtype of Message: stores the additional details which are related to an item

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| ItemID | Unique message ID that is item related | char(10) | Primary Key  Foreign Keyà  Message (MsgID) | No |
| ItemDesc | The description of the item | varchar(150) | unique | No |
| ItemPrice | The price of the item | smallmoney |  | No |
| ItemStatus | The status of the item (eg. Available, Sold) | char(10) | Values: Available,  Sold | No |
| SaleOrRent | Is the item for sale or for rent? (eg. For Sale, For Rent) | char(4) | Values:  Sale,  Rent | No |
| ItemCatID | The category ID that the item belongs to | char(10) | Foreign Keyà  ItemCategory (ItemCatID) | Yes |

16. Likes Relation: Stores the details of who likes which message posted by others

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| AccID | Unique account ID | smallint | Primary Key  Foreign Keyà  Account (AccID) | No |
| MessageID | The message ID that is liked by this account holder | char(10) | Primary Key  Foreign Keyà  Message (MsgID) | No |

17. Message Relation: Stores the details of a message posted by an account holder

Stores the details of a message posted by an account holder

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| MsgID | Unique message ID | char(10) | Primary Key | No |
| MsgText | The message text | text |  | No |
| MsgType | The type of a message (eg. Chatterbox, Garage Sale, Find a Buddy). Item related message is Garage Sale | char(1) | Values:  C for Chatterbox,  G for Garage Sale,  F for Find a Buddy | No |
| PostedBy | The account ID of the person who posts this message | smallint | Foreign Keyà  Account (AccID) | No |
| ReplyTo | The message ID that is being replied to by this message (it is NULL if this message is not a  reply/response) | char(10) | Foreign Key ->  Message (MsgID) | yes |

18. Owner Relation

A subtype of Account: stores the additional account details of a condo unit owner

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| OwnerID | Unique account ID of a condo unit owner | smallint | Primary Key  Foreign Keyà  Account (AccID) | No |
| OwnStartDate | The date when this owner starts owning the condo unit | date |  | No |
| CheckedBy | The account ID of the condo management staff who verifies the validity of ownership | smallint | Foreign Keyà  CondoMgmt (CondoMgmtID) | Yes |

19. Staff Relation

Stores the details of a staff who manages the MyCondo system

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| StaffID | Unique staff ID | smallint | Primary Key | No |
| StaffName | The name of this MyCondo staff | varchar(50) |  | No |
| StaffContactNo | The contact number of the MyCondo staff | char(8) | unique | Yes |
| StaffDateJoined | The start date when this staff joined MyCondo | date | Default set to the current date | No |
| StaffRole | The role of this MyCondo staff (eg. Admin, Customer Service, Tech Support) | char(1) | Values:  A for Admin,  C for Customer Service,  T for Tech Support | No |

20. TempVehLabel Relation

A subtype of VehicleLabel: stores the additional details for a temporary vehicle label application

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| VehLblAppID | Unique application ID for a temporary vehicle label | char(10) | Primary Key  Foreign Keyà  VehicleLabel (VehLblAppID) | No |
| TempStartDate | The start date of the parking permit | date |  | No |
| TempExpiryDate | The expiry date of the parking permit | date | TempStartDate must be less than TempExpiryDate | No |

21. Tenant Relation

A subtype of Account: stores the additional details of a tenant

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| TenantID | Unique account ID of a tenant | smallint | Primary Key  Foreign Keyà  Account (AccID) | No |
| ContractStartDate | The start date of the tenancy contract | date | Default set to current date | No |
| ContractEndDate | The end date of the tenancy contract | date | ContractEndDate must be later than ContractStartDate | No |
| VerifiedBy | The account ID of the condo management staff who verifies the validity of tenancy | smallint | Foreign Keyà  CondoMgmt (CondoMgmtID) | Yes |

22. UsefulContact Relation

Stores the details of a useful contact of a condo. Useful contacts usually are businesses near the condo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| UsefulCtcID | Unique useful contact ID | char(10) | Primary Key | No |
| UsefulCtcName | The name of a useful contact | varchar(50) |  | No |
| UsefulCtcDesc | The description of a useful contact | varchar(150) |  | Yes |
| UsefulCtcPhone | The phone number of a useful contact | char(8) | unique | No |
| CtcCatID | The contact category ID that this useful contact belongs to | char(10) | Foreign Key à  ContactCat (CtcCatID) | Yes |

23. Vehicle Relation

Stores the details of a vehicle

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| VehicleNo | Unique vehicle number | char(10) | Primary Key | No |
| IUNo | The IU number of the vehicle | varchar(30) | unique | No |
| Ownership | The ownership of the vehicle (eg. Own, Rented, Company Car, Others) | char(2) | Values:  OW for Own,  RT for Rented,  CC for Company Car,  OT for Others | No |
| Make | The make of the vehicle (eg. Toyota, Honda, Proton) | varchar(20) |  | No |
| Model | The model of the vehicle (eg. Crown, Altis, Saga) | varchar(20) |  | No |

24. VehicleLabel Relation

Stores the details of a vehicle label application

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Data Type | Constraint | Null Value |
| VehLblAppID | Unique application ID | char(10) | Primary Key | No |
| VehLblStatus | The status of the vehicle label application (eg. Pending, Approved, Rejected) | char(1) | Values:  P for Pending,  A for Approved,  R for Rejected | No |
| VehLblNum | The vehicle label number assigned by the condo management | char(10) | unqiue | No |
| VehicleNo | The vehicle number which the label is applied for | char(10) | Foreign Key à Vehicle (VehicleNo) | No |
| AppliedBy | The account ID of the person who makes the application | smallint | Foreign Key à Account (AccID) | No |
| IssuedBy | The account ID of the condo management staff who issues the vehicle label | smallint | Foreign Key à CondoMgmt (CondoMgmt) | Yes |