

DIT5201 DATABASE SYSTEMS

PROJECT REPORT

<University hostel management system>

Lecturer: Madam Nurul Aqma Binti Salleh Group: TC2L

Trimester 2230, Session 2022 / 2023

No.	Student ID	Student Name
1.	1221208846	Shabrina Devi
2.	1221206107	Tan Yin Wun
3.	1221206199	Wong Mei Jing
4.	1221206370	Lee Sii Ca
5.		
6.		

DIT5201 DATABASE SYSTEMS

PROJECT EVALUATION SHEET (50M)

TRIMESTER 2230, 2022/2023

STUDENT ID	STUDENT NAME	PROJECT (FOR LECTURER USE) (50M)
1221208846	Shabrina Devi	
1221206107	Tan Yin Wun	
1221206199	Wong Mei Jing	
1221206370	Lee Sii Ca	

1 - POOR	2 - FAIR	3 - AVERAGE	4 - GOOD	5 - EXCELLENT

NO	CRITERIA	MARKS
1.	Acknowledgement	
2.	Introduction	
3.	Objectives	
4.	Problem Statement	
5.	Business Rules	
6.	ERD	
7.	Access Relational Diagram	
8.	Data Dictionary	
9.	Forms	
10.	Overall of the report + Format of the report	
	Total (50 Marks)	/50

ACKNOWLEDGEMENT

We would like to take this opportunity to thank God Almighty for blessed us with his favour and bringing our endeavour to a successful completion. We would like to express our heartfelt gratitude to our renowned guide, Madam Nurul Aqma Binti Salleh for providing us with right guidance and advice. Last but nt the least, we would like to thank friends for the support and encouragement they have given us during the course of this project.

We have created our own university hostel management system. It took us about a total of 3 weeks to complete the project given. We wouldn't say it's the easiest project we've worked on. We had our ups and downs during this project. The stress really got to us but in the end, we still managed to complete it successfully. We created this system not only because we had to do so, but also to strengthen our problem solving skills and understanding skills. We faced some issues during building this program, but we scavenged everywhere to understand and find the solution to create the system. We can assure you that we did not use ChatGPT for anything during the making of this project.

PROJECT TITLE, TRI 2230, 2022/2023

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INTRODUCTION

Managing a university hostel is a hustle and bustle. It involves a lot of paperwork and calculations therefore it is prone to many errors. This may lead to inaccuracy and inconsistency in data. The data is usually stored in papers and may be lost, stolen or may get destroyed. Moreover, it is very difficult to update, delete or view data if the number of students and employees is higher than usual.

The University Hostel Management System is a comprehensive software application designed to streamline and enhance the management of university hostels. The system will make administration simple by handling everything digitally, maintaining the security and dependability of the data, and offering a quick and responsive interface for simple data access and updating.

Numerous pieces of information must be kept up to date to manage the hostel facilities including the amount of students each hostel can stay, the rules and fees associated with each, the number of students who check in and out every time and records of visitors and guests. In order for the hostel management to operate effectively and efficiently, a system that can collect all kinds of data and information and analyse it effectively is most required. Hostel wardens can maintain the data easily.

Hostel management in schools often involves administering all activities of students. All these still remain difficult and require some work for the top management. Hostel management functions and responsibilities in modern time universities have always been a problem in managing as the manual system mentions tools they used before. Hostel management system is well designed specially to meet challenges of administrative set up of any universities.

Purpose and Benefits of the University Hostel Management System

- Efficient Room Allocation
- Student Information Management
- Billing and payment management
- Room maintenance
- Security and access control
- Communication between employees and students/visitor

PROJECT OBJECTIVES

- Objective 1
 - o To develop an integrated system for university hostel management systems.
- Objective 2
 - o To compare the efficiency of system design for a small project.
- Objective 3
 - o To gain more experience and knowledge by doing small projects.

PROBLEM STATEMENT

After making an observation on the current process of creating hostel management at university we found few limitations such as so many things has been done completely manual. We created the system using a computerized system. We used that method to prevent data duplication, repetitive data and isolation of data from one and another.

We also found that if we used manual file systems it would take longer time to store and retrieve all the data.By creating this management system we found out that we" be avoiding many major errors and will be systematically. The data also will be kept safely and can be accessed only by employees.

While creating the system we found difficulties while coding and we had to debug it a lot to run the system smoothly. It took us a very longer time than designing the system. We had improved the efficiency of the system we've created.

BUSINESS RULES

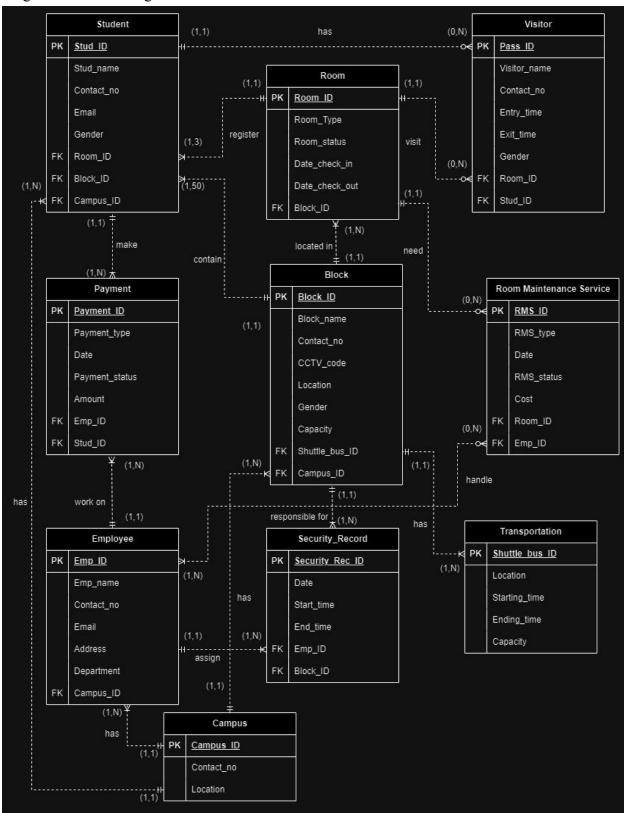
- 1. Each campus provides hostels for students. Each student can only choose to stay in the hostel of one campus. There are many students who prefer to stay in hostels.
- 2. Each university student can register for only one room. One room can be registered by at most 3 students. Each student can choose any one type of room provided by the hostel management.
- 3. Each campus has 4 blocks which are for girls and for boys. Each block contains approximately 50 students for the girls and boys hostel blocks.
- 4. Few visitors can visit one student at a time. Each visitor has only access to visit one registered room but each room can have many visitors during the visiting hours.
- 5. There are several types of departments in hostels which are management departments, financial departments, room maintenance service and security departments. Each employee can be responsible to only one of the department. Meanwhile, each of the departments can be responsible for one or many employees.
- 6. Each payment record is managed by more than one employee in the finance department. Each payment transaction is handled by one employee to avoid errors from occuring. Each student can make many payments of different types such as deposit, hostel fees, maintenance fees etc. but each payment can only made by one student.
- 7. Management is responsible for coordinating many transportation services for the hostel such as shuttle buses to ensure that students have access to the convenient transportation options. Each shuttle bus has a unique identification like a bus ID and is assigned to a particular block within or near the hostel premises. Each bus routine can only carry at most 30 students.
- 8. Every room maintenance service can assign one or many employees to fulfil the services and complaints done by students. However, not all the employees take part in each of the maintenance services.
- 9. Each room is located within a specific block which is block A until D. Each room belongs to one block and each block can have multiple rooms. For example, Room 123 is located in Block A. Rooms may require maintenance services which are handled by the maintenance department. Each maintenance service is assigned to one room and each maintenance department can handle more than one maintenance service.

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10. Each employee can be assigned to work as security and has been recorded, and the security record can have many employees. Each security record is recorded based on which block the security is responsible for while one block can have many security records.

ENTITY RELATIONSHIP DIAGRAM

Diagram below is using Draw.io.



TABLES AND RELATIONAL DIAGRAM

Block Table:

Block_ID [¶]	Block_Name	Block_ContactNo	Block_CctvCode	Block_Location	Block_Gender	Block_Capacity	Shuttle_bus_ID	Campus_ID	7
1	Block A	3	1,923	South Street	Female	50	WW443		1
2	Block B	3	1,888	North Street	Female	50	WV234		1
3	Block C	3	7,865	West Street	Male	50	WW443		1
4	Block D	3	9,907	East Street	Male	50	VL123		1
5	Block A	3	1,456	South Street	Female	50	VY375		2
	Block B	3	1,895	North Street	Female	50	QA659		2
7	Block C	3	5,641	West Street	Male	50	VY375		2
8	Block D	3	8,972	East Street	Male	50	WW671		2

Campus Table:

Campus_ID	7	Campus_Location	Campus_ContactNo
	1	Cyberjaya	03-83125803
	2	Melaka	06-2523443

Employee Table:

Emp_ID 📍	Emp_Name	Emp_Email	Emp_ContactNo	Emp_Department	Emp_Address	Campus_ID	•
1,134	Winnie	winnie@gmail.com	03-9997787	Security	No.16, Jalan Hu Chio, Taman		1
1,279	Jun Wei	junwei33@gmail.com	07-3737379	Finance	No. 10, Jalan Pulau, Taman H		2
1,823	Istri Arinna Jana	arrinajana121@gmail.com	02-2135332	Transportation	No.35, Jalan Arab, Taman Ca		1
2,187	Nana Bin Fitty	nanabinfitty@gmail.com	02-6666002	Transportation	No.6, Jalan Kuching, Taman		2
2,231	Roger Lim	rogerlim@gmail.com	06-5555656	Maintenance	No.45, Jalan Besar, Taman Hij		1
3,298	Jack Soh	jacksoh@gmail.com	02-4567432	Finance	No.29, Jalan Kecil, Taman Su		1
5,011	Vajana Bhavna	vajanabhavna19@gmail.com	06-1111901	Security	No.23, Jalan Yunu, Taman Vil		1
6,784	Chakrika Nanduri	chakrikananduri@gmail.com	06-9918371	Security	No.7, Jalan Abang, Taman Ma		2
7,749	Muhammad Bin Ahfa	muhammadbinahfa@gmail.com	03-4442409	Maintenance	No.61, Jalan Putih, Taman Ma		1

Payment Table:

Payment_ID 📍	Payment_Date	Payment_Amount	Payment_Type	Payment_Status	Emp_ID 📍	Stud_ID ?
1	2023-08-12	130.0	Deposit	Submitted	3,298	1,220,051,585
2	2023-08-08	460.0	1st month Hostel fee	Processing	1,279	1,220,021,702
3	2023-08-12	230.0	1st month Hostel fee	Submitted	3,298	1,221,221,892
4	2023-02-01	53.0	Deposit	Submitted	3,298	1,220,000,892
5	2023-01-01	120.0	12th month Hostel fee	Processing	1,279	1,221,221,092
6	2023-08-02	120.0	7th month Hostel fee	Submitted	3,298	1,220,045,677
7	2023-01-31	53.0	Deposit	Submitted	3,298	1,221,221,310
8	2023-08-15	460.0	1st month Hostel fee	Processing	3,298	1,220,051,585

Room Maintenance Service Table:

RMS_ID ?	RMS_Type	RMS_Date	RMS_Cost	RMS_Status	Room_ID 📍	Emp_ID
1,367	Fan repair service	2023-09-23	120	completed	1001A	2,231
2,546	Light bulb repair service	2023-10-01	58	completed	4020C	2,231
3,643	Wall painting	2023-10-12	64	processing	1002A	7,749

Visitor Table:

Pass_ID 📍	Visitor_Name	Visitor_Gender	Visitor_ContactNo	Visit_Date	EntryTime	ExitTime	Stud_ID	Room_ID	•
QSFA	Jim Qi	Female	06-9875261	2023-09-01	11:24:00	12:03:00	1,220,211,123	1002A	
QSFC	Syaza Alfi	Female	02-7876523	2023-09-05	15:00:00	19:26:00	1,221,209,976	4020C	
QSFD	Muhammad Hijil	Male	06-7342222	2023-09-13	10:46:00	18:18:00	1,220,051,585	1001A	
QSMB	Xun Ming	Female	03-1144992	2023-09-23	18:30:00	18:36:00	1,221,221,092	2005B	
QSMD	Alack	Male	06-2346866	2023-09-13	10:46:00	18:00:00	1,220,045,677	3011D	

Room Table:

Room_ID 📍	Room_Type	Date_Check_In	Room_Status	Block_ID	•
1001A	Single	2023-08-19	Occupied		1
1002A	Double	2023-08-10	Occupied		1
2005B	Suite	2022-01-05	1 bed occupied		6
2008B	Single	(NULL)	Vacant		2
3011D	Suite	2023-02-02	Occupied		4
4020C	Double	2022-06-05	Occupied		3
4099C	Single	2023-08-09	Occupied		7

Security Record Table:

SecurityRec_ID 📍	SecurityRec_Date	SecurityRec_Start_Time	SecurityRec_End_Time	Emp_ID 📍	Block_ID	7
11,253,186	2023-09-01	07:00:00	19:00:00	6,784		5
12,332,799	2023-09-03	00:00:00	07:00:00	5,011		1
12,638,999	2023-09-02	19:00:00	24:00:00	6,784		6
13,214,442	2023-09-01	07:00:00	19:00:00	1,134		1
37,336,236	2023-09-01	07:00:00	19:00:00	5,011		3
53,811,836	2023-09-04	19:00:00	24:00:00	5,011		4
61,923,699	2023-09-04	07:00:00	19:00:00	1,134		4
62,135,826	2023-09-03	07:00:00	19:00:00	6,784		7
63,223,666	2023-09-02	19:00:00	24:00:00	1,134		3
92,937,072	2023-09-04	07:00:00	19:00:00	5,011		2

Student Table:

Stud_ID ?	Stud_Name	Stud_Gender	Stud_ContactNo	Stud_Email	Room_ID	Block_ID	7	Campus_ID	•
1,220,000,892	Muhammad Fattimah	Male	017-1132228	fattimahqqq@gmail.com	3011D		4		1
1,220,021,702	Kok Wei Boon	Male	016-1184512	kokweiboon123@gmail.com	4099C		7		2
1,220,045,677	Ana Kaiya	Male	012-5975466	anakaiya897@gmail.com	3011D		4		1
1,220,051,585	Noora Asya	Female	013-3345211	nooraasya00@gmail.com	1001A		1		1
1,220,211,123	Nor Diana Alfi	Female	016-2080553	dianaalfi@gmail.com	1002A		1		1
1,221,209,976	Gou Lam Qi	Male	012-9837210	quolamqi09@gmail.com	4020C		3		1
1,221,221,092	Choo Rui Ru	Female	016-298451	chooruiru@gmail.com	2005B		6		2
1,221,221,310	Daivya Haris	Male	013-4461090	daivyaharis@gmail.com	3011D		4		1
1,221,221,892	Christina	Female	016-2984511	christina30@gmail.com	1002A		1		1
1,221,239,992	Abdul Azfan	Male	012-8958873	abdulazfan99@gmail.com	4020C		3		1

Transportation Table:

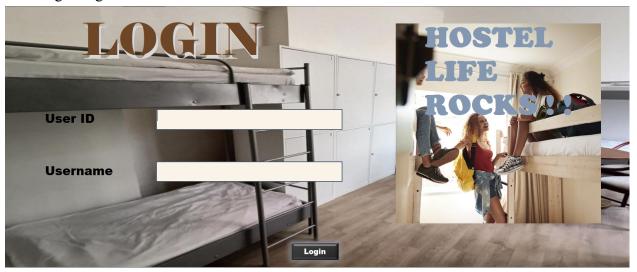
Shuttle_bus_ID 📍	Transp_StaringTime	Transp_EndingTime	Travel_Location	Bus_Capacity
QA659	17:45:00	20:15:00	Hujung Bus Stop	30
VL123	18:15:00	18:45:00	Cyberjaya Utara	30
VY375	12:15:00	12:45:00	MMU Entrance A	30
WV234	10:15:00	10:45:00	Cyberjaya Utara	30
WW443	07:30:00	08:00:00	MMU Entrance B	30
WW671	15:00:00	15:30:00	Sempang Bus Stop	30

DATA DICTIONARY

T able Name	Attribute Name	Content	Туре	Format	Required	PF or	PK reference Table
CAMPUS	Campus ID	Campus Identification	Int(5)	Xxxxxx	Y	PK	
		(auto increment)					
	Campus Location	Campus Location	VChar(255)	Xxxxx	Y		
	Campus_ContactNo	Campus contact number	VChar(255)	99-9999			
BLOCK	Block_ID	Blockidentification	Int(5)	99999	Y	PK	
	Block_Name	Block name	VChar(255)	Xxxxxx	Y		
	Block ContactNo	Block contact number	Int(20)	99-9999	Y		
	Block_CctvCode	Block cctv code	Int(20)	99999			
	Block Location	Block1ocation	VChar(255)	Xxxxx			
	Block_Gender	Block gender	VChar(255)	Xxxxxx			
	Block Capacity	Block capacity	Int(5)	99999			
	ShuttleBus ID	Shuttle bus identification	VChar(5)	Xx999	Y	FK	TRANSPORTATION
D001/	Campus_ID	Campus identification	Int(20)	99999	Y	FK	CAMPUS
ROOM	Room_ID	Roomidentification	VChar(5)	9999X	Y	PK	
	Room_Type	Room type	VChar(255)	Xxxxxx			
	Date check in	Check in date	Date	99/99/99			
	Room_Status	Room status	VChar(255)	Xxxxxx	Y		
	Block ID	Blockidentification	Int(5)	99999	Y	FK	BLOCK
STUDENT	Stud ID	Student identification	Int(10)	99999	Y	PK	
	Stud_Name	Student name	VChar(255)	Xxxxxx	Y		
	Stud Gender	Student gender	VChar(255)	Xxxxxx			
	Stud_ContactNo	Student contact number	VChar(255)	99-9999			
	Stud_email	Student email	VChar(255)	Xxxxxx			
	Room_ID	Room i dentification	VChar(5)	9999X		FK	ROOM
	Block_ID_	Blockidentification	Int(5)	99999		FK	BLOCK
	Campus_ID	Campus identification	Int(5)	99999	Y	FK	CAMPUS
VISITOR	Pass ID	Visitor identification	CHAR(5)	Xxxxx	Y	PK	
	Visitor_Name	Visitor name	VChar(255)	Xxxxxx	Y		
	Visitor Gender	Visitor gender	VChar(255)	Xxxxxx	Y		
	Visitor_ContactNo	Visitor contact number	VChar(255)	99-9999	Y		
	Visit Date	Visit date	Date	99/99/99	Y		
	Entry_Time	Entry time	Time	99:99			
	Exit Time	Exittime	Time	99:99			
	Stud_ID	Student identification	Int(5)	Xxxxxx	Y	FK	STUDENT
	Room_ID	Roomidentification	VChar(5)	99999	Y	FK	ROOM
ROOM	RMS_ID	Maintenance identification	Int(10)	Xxxxxx	Y	PK	
	RMS type	Service type	VChar(255)	Xxxxx	Y		
	RMS_Date	Maintenance date	Date	99/99/99	Y		
	RMS cost	Maintenance cost	Int(10)	Xxxxxx	Y		
	RMS_Status	Maintenance status	VChar(255)	Xxxxx			
	Room ID	Roomidentification	VChar(5)	9999X	Y	FK	ROOM
	Emp_ID	Employee identification	Int(5)	99999		FK	EMPLOYEE
EMPLOYEE	Emp ID	Employee identification	Int(5)	Xxxxxx	Y	PK	
	Emp_Name	Employee name	VChar(255)	Xxxxxx	Y		
	Emp Email	Employee email	VChar(255)	Xxxxxx			
	Emp_ContactNo	Employee contact number	VChar(255)	99-99999	Y		
	Emp Department	Employee department	VChar(255)	Xxxxxx			
	Emp_Address	Employee address	VChar(255)	Xxxxxx	Y		
	Campus ID	Campus identification	Int(5)	Xxxxxx		FK	CAMPUS
ECURITY RECORD	SecurityRec_ID	Security record	Int(20)	Xxxxxx	Y	PK	
		(auto increment)					
	SecurityRec_Date	Security record date	Date	99/99/99	Y		
	SecurityRec Start time	Security record start time	Time	Xxxxxx	Y		
	SecurityRec_End_time	Security record end time	Time	Xxxxxx	Y		
	Emp ID	Employee identification	Int(5)	Xxxxxx		FK	EMPLOYEE
	Block_ID	Blockidentification	Int(5)	99999		FK	BLOCK
PAYMENT	Payment ID	Payment identification	Int(255)	99999	Y	PK	
		(auto increment)					
	Payment Date	Payment date	Date	99/99/99	Y		
	Payment Amount	Payment amount	Decimal(10,2)	RM99.99	Y		
	Payment_type	Payment type	VChar(255)	Xxxxxx			
	payment status	Payment status	VChar(255)	Xxxxxx			
	Emp_ID	Employee identification	Int(5)	99999		FK	EMPLOYEE
	Stud ID	Student identification	Int(10)	99999		FK	STUDENT
RANSPORTATION		Shuttle bus identification	VChar(5)	Xx999	Y	PK	
	Transp_StartingTime	Transportation starting time	Time	99:99	Y		
	Transp EndingTime	Transportation ending time	Time	99:99	Y		
	Travel Location	Travel location	VChar(255)	Xxxxxx			
	Bus Capacity	Bus capacity	Int(5)	99999	1		1

SCREEN SHOT OF FORMS

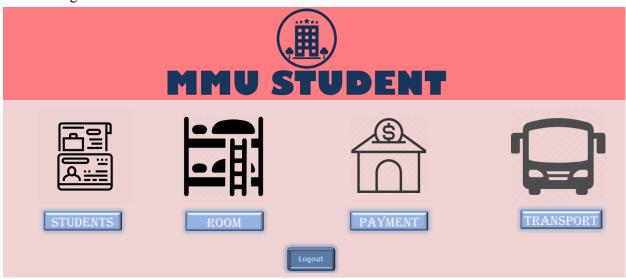
User Login Page:



Visitor Form:



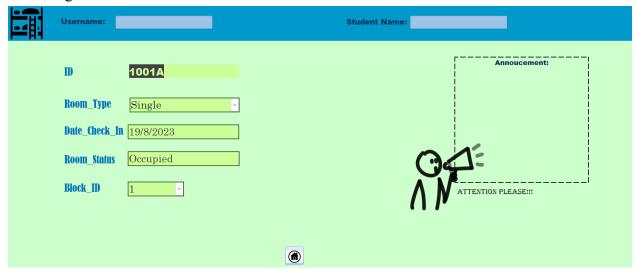
Student Page:



Student Form:



Room Page:



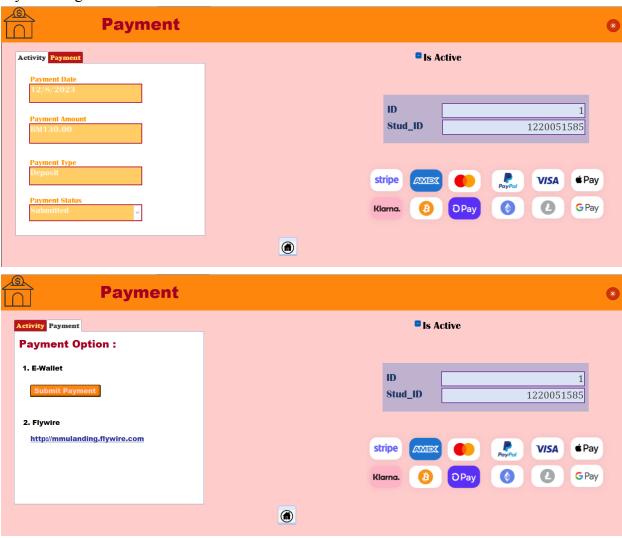
Staff Page:



Employee Form:



Payment Page:



Security Record Page:



Room Maintenance Service Form:



Transportation Service Form:





SCREEN SHOT OF REPORTS

Student Report:

Student Info R	eport					
Student ID	Name	Gender	ContactNo	Room ID	Campus	Block
1220000892	Muhammad Fattimah	Male	017-1132228	3011D	Cyberjaya	Block D
1220021702	Kok Wei Boon	Male	016-1184512	4099C	Melaka	Block C
1220045677	Ana Kaiya	Male	012-5975466	3011D	Cyberjaya	Block D
1220051585	Noora Asya	Female	013-3345211	1001A	Cyberjaya	Block A
1220211123	Nor Diana Alfi	Female	016-2080553	1002A	Cyberjaya	Block A
1221209976	Gou Lam Qi	Male	012-9837210	4020C	Cyberjaya	Block C
1221221092	Choo Rui Ru	Female	016-298451	2005B	Melaka	Block B
1221221310	Daivya Haris	Male	013-4461090	3011D	Cyberjaya	Block D
1221221892	Christina	Female	016-2984511	1002A	Cyberjaya	Block A
1221239992	Abdul Azfan	Male	012-8958873	4020C	Cyberjaya	Block C

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Room Maintenance Service Report:

Room Maintenance Se	rvice Rep	or	t			
Emp ID Name Department	Campus	ID	RMS_Type	Date	Cost	RMS_Status
2231 Roger Lim Maintenance	Cyberjaya					
		1	Fan repair service	23/9/2023	RM120.00	completed
		2	Light bulb repair service	1/10/2023	RM57.50	completed
7749 Muhammad I Maintenance	Cyberjaya					
		3	Wall painting	12/10/2023	RM63.70	processing

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Security Report:

Secur	ity Report						
Emp ID	Name	Department	Security Rec ID	Date	Start Time	End Time Block	Campus
1134	Winnie	Security					
			17083244	1/9/2023	7:00	19:00 Block A	Cyberjaya
			17083248	2/9/2023	19:00	23:59 Block C	Cyberjaya
			17083255	4/9/2023	7:00	19:00 Block D	Cyberjaya
5011	Vajana Bhavna	Security					
			12343256	3/9/2023	0:00	7:00 Block A	Cyberjaya
			13643465	4/9/2023	19:00	23:59 Block D	Cyberjaya
			13719391	1/9/2023	7:00	19:00 Block C	Cyberjaya
			17054621	4/9/2023	7:00	19:00 Block B	Cyberjaya
6784	Chakrika Nanduri	Security					
			13513457	3/9/2023	7:00	19:00 Block C	Melaka
			17685352	1/9/2023	7:00	19:00 Block A	Melaka
			18656341	2/9/2023	19:00	23:59 Block B	Melaka

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Finance Report:

Finance Report							
Stud ID Name	Room	Campus	ID	Date	Amount	Payment_Type	Status
1220000892 Muhammad Fattimah	3011D	Cyberjaya					
			4	1/2/2023	RM53.00	Deposit	Submitted
1220021702 Kok Wei Boon	4099C	Melaka					
			2	8/8/2023	RM460.00	1st month Hostel fee	Processing
1220045677 Ana Kaiya	3011D	Cyberjaya					
			6	2/8/2023	RM120.00	7th month Hostel fee	Submitted
1220051585 Noora Asya	1001A	Cyberjaya					
			1	12/8/2023	RM130.00	Deposit	Submitted
			8	15/8/2023	RM460.00	1st month Hostel fee	Processing
1221221092 Choo Rui Ru	2005B	Melaka					
			5	1/1/2023	RM120.00	12th month Hostel fee	Processing
1221221310 Daivya Haris	3011D	Cyberjaya					
			7	31/1/2023	RM53.00	Deposit	Submitted
1221221892 Christina	1002A	Cyberjaya					
			3	12/8/2023	RM230.00	1st month Hostel fee	Submitted
Manday 2 October 2022							Daga 1 of 1
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REFERENCES

- How to create Multi User LOGIN FORM in Ms Access With SECURITY LEVEL | Part-1
- □ Create a Search Button on your Form in Microsoft Access. Find Button. Filter, FilterOn Pr...
- Create add record, delete and search student profile in Ms Access | Hide design view
- Creating Beautiful Form Designs in Microsoft access and the use of color

<u>Hostel Management System ER Diagram | FreeProjectz</u>

https://in.pinterest.com/pin/464011567852511806/

 $\frac{https://itsourcecode.com/free-projects/database-design-projects/database-design-for-hostel-management-system/$