



FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

AACS3013 Database Development and Applications

Assignment

Semester 202401

Programme (Year & Group)	:	Diploma in Software Engineering Year1 Sem 3
Tutorial Group	:	1
Date Submitted	:	5/5/2024

Team members:

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FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY


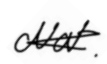


Plagiarism Statement

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We confirm that we have read and shall comply with all the terms and conditions of TAR University of Management and Technology's plagiarism policy.

We declare that this assignment is free from all forms of plagiarism and for all intents and purposes is my own properly derived work.

Declaration Statement Acknowledged by

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Rating (Task 1, 2, 3, 4, 5, 6, 7) = 1: Very Poor, 2-3: Poor, 4-5: Average, 6-7: Good, 8-10: Excellent

Assignment Assessment Form

Programme: DSFY1S3

Member Name: 1. Elisha Tiong Pei Pei 2. Natalie Koa Hao Yee 3. Tan Shieh Ling

4. Michelle Chin Koh Ying

CLO3: Produce database solutions according to the requirements and business scenarios. (P4, PLO3)

CLO4: Demonstrate the ability to solve problems and complete tasks in a given business scenario using a database management software. (C3, PLO6)

Task No.	Task Descriptions	Weightage	Criteria	1	2	3	4	5	Comment
1 (CLO 3)	Develop Business rules	10%	<ul style="list-style-type: none"> • Include the required and relevant pairs of business rules. • All business rules must be clearly defined, precise, and reflect the policies and procedures of the organization's operational environment. 						
2 (CLO 3)	Develop ERD	10%	<ul style="list-style-type: none"> • Transform business rules to a relational database model correctly. • Correct use of Crow's Foot notations. • Include all necessary entities, attributes & relationships. 						
3 (CLO 3)	Develop DBDL	10%	<ul style="list-style-type: none"> • Correct use of DBDL format as required. • All required entities, attributes and relationships correctly shown. • Indicate Primary key and Foreign key clearly 						
4 (CLO 4)	Database Design 20%	10%	<ul style="list-style-type: none"> • Correct tables, records and fields designed according to the ERD developed. 						
		10%	<ul style="list-style-type: none"> • Enforcement of entity integrity rule & referential integrity rule • Appropriate data types, default values and check constraints. 						
5 (CLO 4)	Records (Entries)	10%	<ul style="list-style-type: none"> • Provide sufficient and quality data records. 						

			<ul style="list-style-type: none"> Well-designed records for adequate and logical choices of queries to be performed 							
6 (CLO 4)	Queries Design 30%	10%	<ul style="list-style-type: none"> Flexible query for a variety of inputs. Clear & proper identification of information needs. Apply Accept, Prompt and variable substitution in queries. Flexible query to cater for a variety of inputs, use of multiple tables. Apply Report Formatting features. Meaningful report handlings. Data values formatted accordingly. Only SELECT statements. 							
		10%								
		10%								
7 (CLO 4)	Assignment Report	10%	<ul style="list-style-type: none"> Comprehensive, clarity and completeness coverage Quality of report presented. Presentation and Q & A 							
Assignment Marks / 100										

Task Allocations for Group Work (Task 1 to Task 5):

Task No.	Task Descriptions	In-charge Person (1, 2, 3, 4): Explain in details about task done
1 (CLO 3)	Develop Business rules	Person 2: Wrote Rules and Constraint regarding the Entities Relationship as well as the Constraints that the OTAT must abide by.
2 (CLO 3)	Develop ERD	Person 3: Was developed together in conjunction to the Business Rule. Basically, we figured out the entities which are Customer, Staff, Package, Tour_Director, Schedule, Refund, Cancellation and Feedback and their relation to one another.
3 (CLO 3)	Develop DBDL	Person 4: Was completed based on the completed ERD and was assigned attributes accordingly as well as determining the Primary Keys and Foreign Keys for the attributes.
4 (CLO 2)	Database Design: CREATE TABLE Statements	1. Table Name(s): Staff, Refund, Cancellation 2. Table Name(s): Modification, Customer, Feedback 3. Table Name(s): Tour_Allocation, Package, Schedule 4. Table Name(s): Booking, Tour_Director
5 (CLO 2)	Records (Entries): INSERT Statements	1. Table Name(s): Staff, Refund, Cancellation 2. Table Name(s): Modification, Customer, Feedback 3. Table Name(s): Tour_Allocation, Package, Schedule 4. Table Name(s): Booking, Tour_Director

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Task 1: Business Rules of the System

1.1 Entities of System

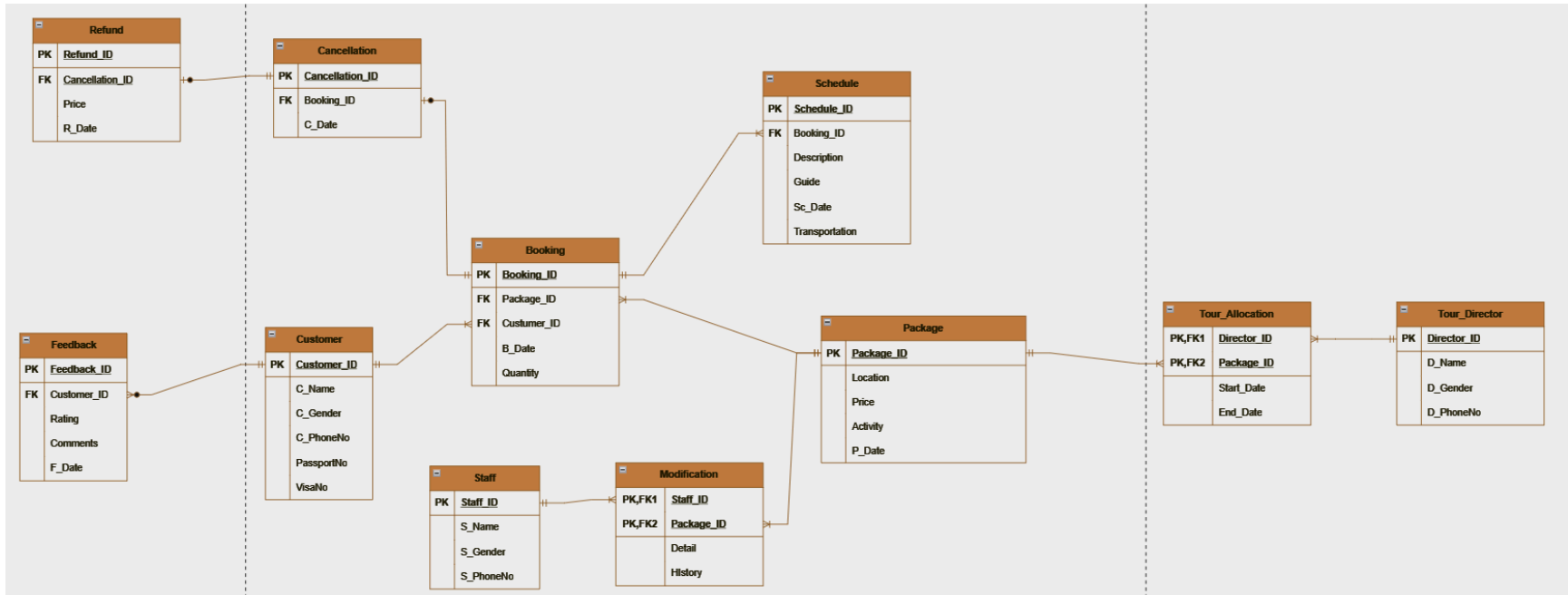
Base (Parent) Table	Transaction (Child) Table	Associative (Bridge) Table (Additional entity created from the original Many-to-Many relations)
<ul style="list-style-type: none">- Staff- Customer- Tour_Director- Package	<ul style="list-style-type: none">- Feedback- Cancellation- Refund- Schedule	<ul style="list-style-type: none">- Modification- Booking- Tour_Allocation

1.2 Business rules

- Each customer can make one or many bookings of tour packages. Each tour package can be booked by one or many customers. (Many to Many)
- Each staff member can modify one or many tour packages. Each tour package can be modified by one or many staff members. (Many to Many)
- Each Tour Director (TD) can be assigned to multiple tour packages. Each tour package can be assigned to one or many Tour Directors (TD). (Many to Many)
- Each booking has one or many schedules of the tour, each schedule is associated with one and only one booking. (One to Many)
- Each customer may or may not provide one or many feedback entries, each feedback entry is associated with one and only one customer. (One to Many)
- Each booking may or may not be cancelled, each cancellation is associated with one and only one booking. (One to One)
- Each cancellation may or may not lead to a refund. Each refund is associated with one and only one cancellation. (One to One)
- Each tour package must have a minimum number of participants before it is confirmed.
- For overseas travel, a valid passport and visa (if applicable) are required for each participant.
- Each tour package has a tour director for local tours and a tour director and assistant tour director for overseas tours.
- At the time of the booking, relevant details of all participants must be provided.
- OTAT ensures that all tour packages meet local and international health and safety standards.
- Customers must follow the health and safety guidelines provided by OTAT during the tour.

Task 2: Entity-Relationship Modelling

2.1 Entity-Relationship Diagram



2.2 Assumptions

1. Cancellation and Refund Policy

- Cancellations made at least 2 weeks prior to the tour departure date are eligible for a full refund.
- Partial refunds may be issued for cancellations made within a specified timeframe.
- Penalties may apply for cancellation made after a certain deadline.

2. Booking Confirmation Process

- Customers need to confirm their bookings within a specified period of time.
- OTAT communicates with customers to confirm their participation.
- Follow-up actions are taken if the minimum participant requirement for a tour package is not met.

3. Customized Tour Packages

- Customers can request customized tour packages subject to successful negotiation with OTAT.
- OTAT evaluates and proposes customized itineraries based on customer preferences.

4. Payment Methods and Deadlines

- Payments for booking must be made at least two weeks before the tour departure date.
- Various payment methods are accepted, including credit/debit cards, bank transfers and cash.
- Late payment deadlines and penalties may apply for overdue payments.

5. Passport and Visa Verification

- OTAT collects and verifies passport and visa information for overseas travel.
- Documentation and validation processes are conducted to ensure compliance.

2.3 Data Dictionary

Table Name	Attribute Name	Contents	Type	Format	Range	Required	PK/ FK	FK Referenced Table
Customer	Customer_ID	Customer ID	CHAR(5)	99999	00001-99999	Y	PK	
	C_Name	Customer name	VARCHAR(20)	Xxxxxxx		Y		
	C_Gender	The classification of individuals based on their gender identity.	CHAR(1)	F/M		Y		
	C_PhoneNo	Customer phone number	VARCHAR(10)	+1234567890		Y		
	PassportNo	A unique identifier assigned to a passport document	VARCHAR(20)	Alphanumeric		Y		
	VisaNo	A unique identifier assigned to a visa document	VARCHAR(20)	Alphanumeric		Y		
Staff	Staff_ID	Staff ID	CHAR(5)	99999	00001-99999	Y	PK	
	S_Name	Staff name	VARCHAR(20)	Xxxxxxx		Y		
	S_Gender	The classification of individuals based on their gender identity.	CHAR(1)	F/M		Y		
	S_PhoneNo	Staff phone number	VARCHAR(10)	+1234567890		Y		
Package	Package_ID	Tour package ID	CHAR(5)	99999	00001-99999	Y	PK	
	Activity	Activity of	VARCHAR(50)	Xxxxxxx		Y		

		the packages						
	Location	Location of the tour	VARCHAR(20)	Xxxxxxx		Y		
	Price	Price per person	Number (10,2)	9,999,999.99		Y		
	P_Date	Specific date of the tour package	DATE	DD-MM-YYYY		Y		
Booking	Booking_ID	Booking ID	CHAR(5)	99999	00001-99999	Y	PK	
	Customer_ID	Customer ID	CHAR(5)	99999	00001-99999		FK	Customer
	Package_ID	Tour package ID	CHAR(5)	99999	00001-99999		FK	Package
	B_Date	Tour package booking date	DATE	DD-MM-YYYY		Y		
	Quantity	Number of person that have purchased	CHAR(5)	99999	00001-99999	Y		
Tour_Allocation	Director_ID	Tour Director ID	CHAR(5)	99999	00001-99999	Y	PK, FK1	Tour_Director
	Package_ID	Tour package ID	CHAR(5)	99999	00001-99999	Y	FK, FK2	Package
	Start_Date	The start date of the tour director's duty for the tour.	DATE	DD-MM-YYYY		Y		
	End_Date	The end date of the tour director's duty for the tour.	DATE	DD-MM-YYYY		Y		
Tour_Director	Director_ID	Tour Director ID	CHAR(5)	99999	00001-99999	Y	PK	
	D_Name	Tour Director name	VARCHAR(20)	Xxxxxxx		Y		
	D_Gender	The classification of individuals	CHAR(1)	F/M		Y		

		based on their gender identity.						
	D_PhoneNo	Tour Director's phone number	VARCHAR(10)	+1234567890		Y		
Modification	Staff_ID	Staff ID	CHAR(5)	99999	00001-99999	Y	PK, FK1	Staff
	Package_ID	Tour package ID	CHAR(5)	99999	00001-99999	Y	PK, FK2	Package
	Detail	The details that have been edited in packages.	VARCHAR(20)	Xxxxxxx		Y		
	History	The history that has been stored.	VARCHAR(255)	Xxxxxxx		Y		
Feedback	Feedback_ID	Feedback ID	CHAR(5)	99999	00001-99999	Y	PK	
	Customer_ID	Customer ID	CHAR(5)	99999	00001-99999	Y	FK	Customer
	Rating	A numerical or qualitative evaluation given by a customer to indicate their satisfaction level with a service.	CHAR(1)	9	1-5			
	Comments	Comment	VARCHAR(255)	Xxxxxxx				
	F_Date	Feedback date	DATE	DD-MM-YYYY		Y		
Refund	Refund_ID	Refund ID	CHAR(5)	99999	00001-99999	Y	PK	
	Cancellation_ID	Cancellation ID	CHAR(5)	99999	00001-99999	Y	FK	Cancellation
	Amount	The total amount should be refunded.	Number (10,2)	9,999,999.99		Y		
	R_Date	Feedback date	DATE	DD-MM-YYYY		Y		

Cancellation	Cancellation_ID	Cancellation ID	CHAR(5)	99999	00001-99999	Y	PK	
	Booking_ID	Booking ID	CHAR(5)	99999	00001-99999	Y	FK	Booking
	C_Date	Feedback date	DATE	DD-MM-YYYY		Y		
Schedule	Schedule_ID	Schedule ID	CHAR(5)	99999	00001-99999	Y	PK	
	Booking_ID	Booking ID	CHAR(5)	99999	00001-99999	Y	FK	Booking
	Guide	Name or identifier of the guide or tour director assigned to the schedule.	VARCHAR(20)	Xxxxxxx		Y		
	Sc_Date	Feedback date	DATE	DD-MM-YYYY		Y		
	Transportation	Details or identifier of the transportation assigned to the schedule	VARCHAR(20)	Xxxxxxx		Y		

PK FK CHAR VARCHAR DATE NUMBER	= Primary Key = Foreign Key = Fixed-length character (1 - 255 characters) = Variable-length character data type (1 - 2,000 characters) = Date ('YYYY-MM-DD') = Numeric values. NUMBER (10,2) is used to specify numbers with up to 10 digits, including two digits to the right of the decimal places. Some RDBMS permit the use of a MONEY or CURRENCY data type.
---	---

Task 3: Normalization

3.1 Attributes of entities with keys

3NF

1. Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo, PassportNo, VisaNo)
2. Staff (Staff_ID, S_Name, S_Gender, S_PhoneNo)
3. Package (Package_ID, Location, Price, P_Date)
4. PackageActivity (Package_ID*, Activity)
5. Booking (BookingID, Customer_ID*, Package_ID*, B_Date, Quantity)
6. Schedule (Schedule_ID, Booking_ID*, Description, Guide, Sc_Date, Transportation)
7. Tour_Director(TD) (Director_ID, D_Name, D_Gender, D_PhoneNo)
8. Modification (Staff_ID*, Package_ID*, Detail, History)
9. Refund (Refund_ID, Cancellation_ID*, Price, R_Date)
10. Cancellation (Cancellation_ID, Booking_ID*, C_Date)
11. Tour_Allocation(Director_ID*, Package_ID*, Start_Time, End_Time)
12. Feedback (Feedback_ID, Customer_ID*, Rating, Comments, F_Date)

Task 4: Create database tables in Oracle

4.1 Customer Table

```
create table Customer (  
    Customer_ID      char(5)          not null,  
    C_Name           varchar(20)       not null,  
    C_Gender         char(1)          not null,  
    C_PhoneNo        varchar(10)       not null,  
    PassportNo       varchar(20)       not null,  
    VisaNo           varchar(20)       not null,  
    primary key(Customer_ID),  
    constraint chk_C_Gender check (UPPER(C_Gender) in ('M','F'))  
);
```

4.2 Staff Table

```
create table Staff (  
    Staff_ID         char(5)          not null,  
    S_Name           varchar(20)       not null,  
    S_Gender         char(1)          not null,  
    S_PhoneNo        varchar(10)       not null,  
    primary key(Staff_ID),  
    constraint chk_S_Gender check (UPPER(S_Gender) in ('M','F'))  
);
```

4.3 Package Table

```
create table Package (  
    Package_ID       char(5)          not null,  
    Activity          varchar(50)       not null,  
    Location          varchar(50)       not null,  
    Price            number(10,2)       not null,  
    P_Date           date               not null,  
    primary key(Package_ID)  
);
```

4.4 Booking Table

```
create table Booking (
    Booking_ID      char(5)      not null,
    Customer_ID     char(5),
    Package_ID      char(5),
    B_Date          date         not null,
    Quantity        char(5)      not null,
primary key(Booking_ID),
foreign key(Customer_ID) references Customer(Customer_ID),
foreign key(Package_ID) references Package(Package_ID)
);
```

4.5 Tour_Allocation Table

```
create table Tour_Allocation (
    Director_ID     char(5)      not null,
    Package_ID      char(5)      not null,
    Start_Date      date         not null,
    End_Date        date         not null,
primary key(Director_ID,Package_ID),
foreign key(Director_ID) references Tour_Director(Director_ID),
foreign key(Package_ID) references Package(Package_ID)
);
```

4.6 Tour_Director Table

```
create table Tour_Director (
    Director_ID     char(5)      not null,
    D_Name          varchar(20)  not null,
    D_Gender        char(1)      not null,
    D_PhoneNo       varchar(10)  not null,
primary key(Director_ID),
constraint chk_D_Gender check (UPPER(D_Gender) in ('M','F'))
);
```

4.7 Modification Table

```
create table Modification (  
    Staff_ID          char(5)          not null,  
    Package_ID        char(5)          not null,  
    Detail             varchar(255)     not null,  
    History            varchar(255)     not null,  
primary key(Staff_ID,Package_ID),  
foreign key(Staff_ID)  references Staff(Staff_ID),  
foreign key(Package_ID) references Package(Package_ID)  
);
```

4.8 Feedback Table

```
create table Feedback (  
    Feedback_ID        char(5)          not null,  
    Customer_ID         char(5)          not null,  
    Rating              char(1),  
    Comments            varchar(255),  
    F_Date              date             not null,  
primary key(Feedback_ID),  
foreign key(Customer_ID) references Customer(Customer_ID)  
);
```

4.9 Refund Table

```
create table Refund (  
    Refund_ID           char(5)          not null,  
    Cancellation_ID     char(5)          not null,  
    Amount               number(10,2)    not null,  
    R_Date              date             not null,  
primary key(Refund_ID),  
foreign key(Cancellation_ID) references  
Cancellation(Cancellation_ID)  
);
```

4.10 Cancellation Table

```
create table Cancellation (
    Cancellation_ID      char(5)      not null,
    Booking_ID           char(5)      not null,
    C_Date               date         not null,
    primary key(Cancellation_ID),
    foreign key(Booking_ID) references Booking(Booking_ID)
);
```

4.11 Schedule Table

```
create table Schedule (
    Schedule_ID          char(5)      not null,
    Booking_ID           char(5)      not null,
    Guide               varchar(20) not null,
    Sc_Date             date         not null,
    Transportation       varchar(20) not null,
    primary key(Schedule_ID),
    foreign key(Booking_ID) references Booking(Booking_ID)
);
```

Task 5: Create records

5.1 Customer Table

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (1, 'Scotty Rupel', 'M', '0627728324',
'E07643778', '21361946');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (2, 'Mehetabel Merigon', 'F',
'0284078891', 'X97166441', '61328199');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (3, 'Padraic Gillmor', 'F', '0404218841',
'B58833411', '57383387');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (4, 'Fifi Laughlin', 'M', '0386410575',
'T04481462', '17458183');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (5, 'Garth Murrill', 'M', '0952871106',
'T61358315', '10276949');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (6, 'Laverna Terran', 'F', '0716086830',
'X82391186', '60512756');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (7, 'Corbet Dorkins', 'M', '0354323445',
'L36282979', '35120979');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (8, 'Koenraad Gretham', 'M', '0455578651',
'Y21608605', '33417362');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (9, 'Dorette Riguard', 'F', '0107592002',
'W85005698', '44982463');
```

```
INSERT INTO Customer (Customer_ID, C_Name, C_Gender, C_PhoneNo,
PassportNo, VisaNo) VALUES (10, 'Hyacinthie Arntzen', 'F',
'0156642947', 'B38825159', '97717571');
```

5.2 Staff Table

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (1,  
'Jeanine Mallett', 'F', '0102555844');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (2,  
'Kacie Blas', 'F', '0376928256');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (3,  
'Cy Ottey', 'M', '0952214966');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (4,  
'Marje Ritchie', 'F', '0932141991');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (5,  
'Buckie Luke', 'M', '0568343555');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (6,  
'Simeon Loftin', 'M', '0689310078');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (7,  
'Caitlin Volante', 'M', '0542393260');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (8,  
'Field Bilbrey', 'M', '0253454015');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (9,  
'Ted Burstow', 'F', '0188443547');
```

```
INSERT INTO Staff (Staff_ID, S_Name, S_Gender, S_PhoneNO) VALUES (10,  
'Barby Tripon', 'M', '0301837524');
```

5.3 Package Table

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (1, 'Island Hopping', 'Langkawi, Malaysia', '1500.00',
'21-AUG-2023');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (2, 'Cultural Exploration', 'Kyoto, Japan', '3000.00',
'16-MAR-2022');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (3, 'Safari Adventure', 'Kruger National Park, South Africa',
'5000.00', '03-SEP-2022');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (4, 'Rainforest Trekking', 'Taman Negara, Pahang, Malaysia',
'500.00', '22-JUL-2021');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (5, 'City Sightseeing', 'Kuala Lumpur, Malaysia', '300.00',
'21-JUL-2022');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (6, 'Beach Relaxation', 'Penang Island, Malaysia', '700.00',
'12-AUG-2021');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (7, 'Scuba Diving', 'Maldives', '4500.00', '02-FEB-2022');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (8, 'Skiing', 'Hokkaido, Japan', '6000.00', '12-FEB-2023');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (9, 'River Cruise', 'Kinabatangan River, Sabah, Malaysia',
'400.00', '08-JUL-2021');
```

```
INSERT INTO Package (Package_ID, Activity, Location, Price, P_Date)
VALUES (10, 'Historical Tour', 'Athens, Greece', '5500.00',
'09-MAR-2023');
```

5.4 Booking Table

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (1, 4, 8, '11-OCT-2022', '6');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (2, 3, 10, '04-DEC-2022', '1');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (3, 5, 7, '06-DEC-2021', '6');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (4, 1, 2, '23-JAN-2022', '1');
```

```
INSERT into Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (5, 2, 7, '12-JUN-2021', '1');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (6, 1, 3, '14-JUL-2022', '9');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (7, 5, 9, '12-MAY-2021', '6');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (8, 3, 2, '07-SEP-2021', '1');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (9, 1, 5, '26-APR-2022', '7');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (10, 4, 7, '11-JUL-2021', '8');
```

```
INSERT INTO Booking (Booking_ID, Customer_ID, Package_ID, B_Date,
Quantity) VALUES (11, 3, 2, '11-JAN-2022', '5');
```


5.5 Tour_Allocation Table

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (1, 5, '21-JUL-2022', '24-JUL-2022');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (2, 3, '03-SEP-2022', '06-SEP-2022');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (3, 6, '12-AUG-2021', '15-AUG-2021');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (4, 10, '09-MAR-2023', '12-MAR-2023');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (5, 8, '12-FEB-2023', '15-FEB-2023');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (6, 2, '16-MAR-2022', '19-MAR-2022');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (7, 9, '08-JUL-2021', '11-JUL-2021');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (8, 1, '21-AUG-2023', '24-AUG-2023');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (9, 7, '02-FEB-2022', '05-FEB-2022');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (10, 4, '22-JUL-2021', '25-JUL-2021');
```

```
INSERT INTO Tour_Allocation (Director_ID, Package_ID, Start_Date,
End_Date) VALUES (5, 3, '03-SEP-2022', '06-SEP-2022');
```

5.6 Tour_Director Table

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (1, 'Cherin Pfiffer', 'F', '0326205640');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (2, 'Olivette Houlridge', 'F', '0685540603');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (3, 'Bondon Hammerberger', 'M', '0574892004');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (4, 'Grata Garriock', 'F', '0959300825');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (5, 'Ruby Coslett', 'F', '0492021686');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (6, 'Austen Gonzalez', 'F', '0735920090');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (7, 'Kirsten Reekie', 'M', '0171164996');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (8, 'Rosa Gawthorp', 'F', '0526436046');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (9, 'Rafa Raphael', 'M', '0861458537');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (10, 'Filide Longstaff', 'F', '0251392482');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (11, 'Evangeline Raff', 'F', '0782045712');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (12, 'Cassia Delafoy', 'F', '0367921014');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (13, 'Thadeus Parkins', 'M', '0654389271');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (14, 'Verena Dempster', 'F', '0935612847');
```

```
INSERT INTO Tour_Director (Director_ID, D_Name, D_Gender, D_PhoneNo)
VALUES (15, 'Aurelia Meadowcroft', 'F', '0418279065');
```

5.7 Modification Table

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (6, '5', 'Adjusted price to RM300.00', 'Price adjustment made
on 10/03/2022');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (4, '7', 'Updated tour guide information', 'Guide details
updated on 20/12/2021');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (7, '3', 'Included guided nature walk activity', 'Nature walk
inclusion on 25/06/2022');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (9, '1', 'Change departure date to 21/08/2023', 'Date
modification recorded on 10/01/2023');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (2, '10', 'Updated transportation details', 'Transportation
information updated on 22/02/2023');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (10, '9', 'Added wildlife spotting excursion', 'Wildlife
spotting activity added on 20/03/2021');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (2, '6', 'Included snorkeling excursion', 'Snorkeling activity
added on 15/05/2021');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (5, '7', 'Adjusted diving schedule for better weather
conditions', 'Schedule adjustment on 01/02/2022');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (9, '4', 'Updated activity schedule', 'Activity schedule
updated on 28/05/2021');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (6, '2', 'Adjusted itinerary to include traditional tea
ceremony', 'Tea ceremony added on 10/11/2021');
```

```
INSERT INTO Modification (Staff_ID, Package_ID, Detail, History)
VALUES (2, '8', 'Included ski lesson with certified instructor', 'Ski
lesson added on 15/09/2022');
```

5.8 Feedback Table

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (1, 4, 5, 'The tour was amazing, highly recommended!',
'12-FEB-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (2, 3, 4, 'Great experience overall, but could improve
on transportation.', '30-MAR-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (3, 4, 5, 'The guide was very knowledgeable and
friendly', '20-FEB-2023');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (4, 5, 3, 'Enjoyed the activities, but the
accommodation could be better.', '10-FEB-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (5, 2, 5, 'The tour exceeded my expectations,
especially the food!', '15-FEB-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (6, 5, 2, 'Disappointed with the lack of communication
regarding itinerary changes.', '20-JUL-2021');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (7, 1, 4, 'Had a fantastic time, but the tour felt
rushed at times.', '1-APR-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (8, 3, 4, 'The scenery was breathtaking, worth every
penny!', '20-MAR-2023');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (9, 4, 3, 'Encountered some issues with the booking
process, but staff were helpful in resolving them.', '20-FEB-2023');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (10, 2, 3, 'Average experience, expected more for the
price.', '17-FEB-2022');
```

```
INSERT INTO Feedback (Feedback_ID, Customer_ID, Rating, Comments,
F_Date) VALUES (11, 5, 3, 'The whole trip was very rushed.',
'18-JUL-2021');
```

5.9 Refund Table

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (1, 3, '3000.00', '07-FEB-2022');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (2, 7, '15000.00', '04-FEB-2022');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (3, 9, '4500.00', '03-JUL-2021');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (4, 2, '27000.00', '27-DEC-2021');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (5, 11, '36000.00', '10-NOV-2022');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (6, 1, '45000.00', '05-AUG-2022');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (7, 10, '2400.00', '02-JUN-2021');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (8, 6, '2100.00', '22-MAY-2022');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (9, 5, '5500.00', '23-JAN-2023');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (10, 8, '36000.00', '03-AUG-2021');
```

```
INSERT INTO Refund (Refund_ID, Cancellation_ID, Amount, R_Date)
VALUES (11, 4, '3000.00', '30-SEP-2021');
```

5.10 Cancellation Table

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(1, 6, '30-JUL-2022');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(2, 3, '22-DEC-2021');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(3, 4, '30-JAN-2022');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(4, 8, '23-SEP-2021');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(5, 2, '19-JAN-2023');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(6, 9, '15-MAY-2022');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(7, 11, '27-JAN-2022');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(8, 10, '30-JUL-2021');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(9, 5, '28-JUN-2021');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(10, 7, '28-MAY-2021');
```

```
INSERT INTO Cancellation (Cancellation_ID, Booking_ID, C_Date) VALUES  
(11, 1, '04-NOV-2022');
```

5.11 Schedule Table

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (1, 5, 'Cherin Pfiffer', '02-FEB-2022',
'Ferry');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (2, 4, 'Grata Garriock', '16-MAR-2022', 'Tour
Bus');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (3, 7, 'Kirsten Reekie', '08-JUL-2021',
'Boat');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (4, 2, 'Olivette Houlridge', '09-MAR-2023',
'Ferry');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (5, 3, 'Grata Garriock', '02-FEB-2022', 'Tour
Bus');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (6, 6, 'Austen Gonzalez', '03-SEP-2022',
'Boat');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (7, 9, 'Rafa Raphael', '21-JUL-2022', 'Tour
Bus');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (8, 1, 'Cherin Pfiffer', '12-FEB-2023', 'Tour
Bus');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (9, 10, 'Filide Longstaff', '02-FEB-2022',
'Dive Boats');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (10, 11, 'Bondon Hammerberg', '16-MAR-2022',
'Tour Bus');
```

```
INSERT INTO Schedule (Schedule_ID, Booking_ID, Guide, Sc_Date,
Transportation) VALUES (11, 8, 'Austen', '16-MAR-2022', 'Tour Bus');
```


Task 6: Create Queries

6.1 Query/Report 1: Customer Details with Booking Informations

Purpose: This query retrieves customer details along with the booking information to understand which customers have booked which packages.

Importance:

This query is essential for the company to gain insights into customer behavior and preferences. By analyzing the booking information, the company can:

1. Understand customer preferences: By examining the booking information, the company can understand the preferences of individual customers and tailor their offerings accordingly.
2. Optimize resource allocation: By analyzing the booking information, the company can optimize resource allocation and ensure that they have enough resources to meet customer demand.
3. Monitor sales trends: By analyzing the booking information over time, the company can monitor sales trends and identify any seasonal patterns or fluctuations.

The importance of this query lies in its ability to provide valuable insights into customer behavior and preferences, which can help the company make informed decisions and optimize their offerings. By prompting the user for input, the query also allows for customization, enabling the user to filter the results based on specific criteria such as customer name and date range. This flexibility makes the query a powerful tool for analyzing booking information and understanding customer behavior.

Query:

```
-- Prompt for user input
ACCEPT CustomerName PROMPT 'Enter Customer Name: '
ACCEPT StartDate PROMPT 'Enter Start Date (dd/mm/yyyy): '
ACCEPT EndDate PROMPT 'Enter End Date (dd/mm/yyyy): '

-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN C_Name FORMAT A20 HEADING "Name";
COLUMN C_Gender FORMAT A7 HEADING "Gender";
COLUMN C_PhoneNo FORMAT A11 HEADING "Phone No";
COLUMN Booking_ID FORMAT A15 HEADING "Booking Id";
COLUMN Activity FORMAT A25 HEADING "Package Activity";
COLUMN B_Date FORMAT A12 HEADING "Booking Date";

-- Set up report title and page numbering
TTITLE CENTER 'Booking Information' -
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the customer name
BREAK ON C_Name ON C_Gender ON C_PhoneNo SKIP 1

-- Select statement with optional filtering based on user input
SELECT
    C.C_Name,
    C.C_Gender,
    C.C_PhoneNo,
    B.Booking_ID,
    P.Activity,
    B.B_Date
FROM
    Customer C
JOIN
    Booking B ON C.Customer_ID = B.Customer_ID
JOIN
    Package P ON B.Package_ID = P.Package_ID
WHERE
    (C.C_Name = '&CustomerName' OR '&CustomerName' IS NULL)
```

```

        AND B.B_Date BETWEEN TO_DATE('&StartDate') AND
TO_DATE('&EndDate')
ORDER BY
        B_Date;

```

```

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF

```

Sample Output: screenshot

```

SQL> start "C:\Database Assignment\Query\Query 1.txt"
Enter Customer Name: Laverna Terran
Enter Start Date (dd/mm/yyyy): 01/01/2022
Enter End Date (dd/mm/yyyy): 30/06/2022

Session altered.

old 15:      (C.C_Name = '&CustomerName' OR '&CustomerName' IS NULL)
new 15:      (C.C_Name = 'Laverna Terran' OR 'Laverna Terran' IS NULL)
old 16:      AND B.B_Date BETWEEN TO_DATE('&StartDate') AND TO_DATE('&EndDate')
new 16:      AND B.B_Date BETWEEN TO_DATE('01/01/2022') AND TO_DATE('30/06/2022')

```

Booking Information						Page No: 1
Name	Gender	Phone No	Booking Id	Package Activity	Booking Date	
Laverna Terran	F	0716086830	245	Historical Tour	12/01/2022	
			481	Cultural Exploration	03/03/2022	
			483	Safari Adventure	15/03/2022	
			466	Skiing	25/03/2022	
			220	City Sightseeing	21/04/2022	
			50	Skiing	26/05/2022	
			48	Historical Tour	24/06/2022	

```

7 rows selected.

```

6.2 Query/Report 2: Tour Director Details with Assigned Packages

Purpose: This query helps to monitor tour director's assignments by retrieving details of tour directors along with the packages they are assigned to.

Importance:

This query retrieves tour director details along with assigned packages, serves several important purposes for the company:

1. **Monitoring Tour Directors' Assignments:** By listing tour directors and their assigned packages, the company gains insights into the workload distribution among tour directors. This allows them to ensure fair distribution of assignments and prevent overloading of any particular director.
2. **Resource Management:** Understanding which directors are assigned to which packages helps in resource allocation and management. It allows the company to efficiently utilize the skills and expertise of each director based on the nature of the packages.
3. **Quality Assurance:** By monitoring the assignments of tour directors, the company can ensure that each package is managed by a suitable and capable director. This contributes to maintaining the quality of services provided to customers.
4. **Customer Satisfaction:** The query indirectly contributes to customer satisfaction by ensuring that packages are managed effectively by experienced and competent directors. Satisfied customers are more likely to become repeat customers and recommend the company to others.
5. **Decision Making:** The insights obtained from the query can inform strategic decision-making processes within the company. For example, it can help in identifying areas where additional training or support may be needed for tour directors, or in planning future package offerings based on directors' expertise and availability.

Overall, this query plays a crucial role in optimizing operations, enhancing service quality, and ultimately, improving customer satisfaction for the company.

Query:

```
-- Prompt for user input
ACCEPT DirectorName PROMPT 'Enter Director Name(leave blank to list
all the directors with assigned packages): '

-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN D_Name FORMAT A20 HEADING "Director Name";
COLUMN D_Gender FORMAT A7 HEADING "Gender";
COLUMN D_PhoneNo FORMAT A11 HEADING "Phone No";
COLUMN Activity FORMAT A25 HEADING "Package Activity";
COLUMN Location FORMAT A40 HEADING "Package Location";

-- Set up report title and page numbering
TTITLE CENTER 'Tour Director Detail with Assigned Packages' -
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the director name
BREAK ON D_Name ON D_Gender ON D_PhoneNo SKIP 2

-- Select statement with optional filtering based on user input
SELECT
    td.D_Name,
    td.D_Gender,
    td.D_PhoneNo,
    P.Activity,
    P.Location
FROM
    Tour_Director td
JOIN
    Tour_Allocation ta ON td.Director_ID = ta.Director_ID
JOIN
    Package P ON ta.Package_ID = P.Package_ID
WHERE
    (td.D_Name = '&DirectorName' OR '&DirectorName' IS NULL);

-- Clear formatting and titles
CLEAR COLUMNS
```

CLEAR BREAKS
TTITLE OFF

Sample Output: screenshot

```
SQL> start "C:\Database Assignment\Query\Query 2.txt"
Enter Director Name(leave blank to list all the directors with assigned packages): Ruby Coslett

Session altered.

old 14:      (td.D_Name = '&DirectorName' OR '&DirectorName' IS NULL)
new 14:      (td.D_Name = 'Ruby Coslett' OR 'Ruby Coslett' IS NULL)

          Tour Director Detail with Assigned Packages                      Page No:    1
-----
Director Name      Gender  Phone No      Package Activity      Package Location
-----
Ruby Coslett       F       0492021686    Island Hopping        Langkawi, Malaysia
                  Cultural Exploration   Kyoto, Japan
                  Safari Adventure       Kruger National Park, South Africa
                  Rainforest Trekking    Taman Negara, Pahang, Malaysia
                  City Sightseeing        Kuala Lumpur, Malaysia
                  Beach Relaxation        Penang Island, Malaysia
                  Scuba Diving            Maldives
                  Skiing                  Hokkaido, Japan
                  River Cruise            Kinabatangan River, Sabah, Malaysia
                  Historical Tour         Athens, Greece

10 rows selected.
```

6.3 Query/Report 3: Package Details with Booking Count

Purpose: The purpose of this query is to provide insights into the popularity of different packages offered by the company. By counting the total number of bookings for each package, the company can identify which packages are the most popular and which ones may need to be modified or discontinued.

Importance:

1. **Strategic Decision Making:** The query provides critical data on the number of bookings for each package, which is essential for strategic decision-making. By understanding which packages are most popular, the company can make informed decisions about marketing strategies, resource allocation, and capacity planning.
2. **Customer Insights:** By analyzing the booking trends, the company can gain insights into customer behavior and preferences. This can lead to improved customer satisfaction through tailored experiences and personalized communication.
3. **Operational Efficiency:** Knowing the popularity of different packages allows the company to optimize its operations. For example, less popular packages might be scheduled during off-peak times or combined with other activities to improve efficiency.
4. **Inventory Management:** The report can help manage the inventory of resources required for each package. High-demand packages may necessitate more resources, while low-demand packages might require fewer resources, reducing waste and costs.
5. **Market Analysis:** The data can be used for competitive analysis, helping the company understand its position in the market relative to competitors. It can also reveal trends that may influence future package development.
6. **Financial Forecasting:** Accurate booking data is crucial for financial forecasting. The company can predict future revenue based on past booking trends and adjust financial plans accordingly.

In summary, the insights provided by this query are vital for various aspects of the company's operations, from marketing and sales to finance and customer service. Regular analysis of booking data ensures that the company remains agile and responsive to market demands, ultimately contributing to its long-term success and sustainability.

Query:

```
-- Prompt for user input
ACCEPT PackageID PROMPT 'Enter Package ID(leave blank to list all the
packages): '

-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Package_ID FORMAT A12 HEADING "Package Id";
COLUMN Activity FORMAT A20 HEADING "Package Activity" ;
COLUMN Location FORMAT A38 HEADING "Package Location";
COLUMN Price FORMAT 999999.99 HEADING "Price (RM)";
COLUMN Total_Booking FORMAT A15 HEADING "Total Booking";

-- Set up report title and page numbering
TTITLE CENTER 'Total Number of Bookings for Each Packages'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the package id
BREAK ON Package_ID SKIP 2

-- Select statement with optional filtering based on user input
SELECT
    P.Package_ID,
    P.Activity,
    P.Location,
    P.Price,
    COUNT(B.Booking_ID) AS "Total Booking"
FROM
    Package P
LEFT JOIN
    Booking B ON P.Package_ID = B.Package_ID
GROUP BY
    P.Package_ID,
    P.Activity,
    P.Location,
    P.Price
HAVING
    (P.Package_ID = '&PackageID' OR '&PackageID' IS NULL)
ORDER BY
```



```
P.Package_ID;
```

```
-- Clear formatting and titles  
CLEAR COLUMNS  
CLEAR BREAKS  
TTITLE OFF
```

Sample Output: screenshot

```
SQL> start "C:\Database Assignment\Query\Query 3.txt"  
Enter Package ID(leave blank to list all the packages):  
  
Session altered.  
  
old 17:      (P.Package_ID = '&PackageID' OR '&PackageID' IS NULL)  
new 17:      (P.Package_ID = '' OR '' IS NULL)  
  
Total Number of Bookings for Each Packages  
Page No: 1  


| Package Id | Package Activity     | Package Location                    | Price (RM) | Total Booking |
|------------|----------------------|-------------------------------------|------------|---------------|
| 1          | Island Hopping       | Langkawi, Malaysia                  | 1500.00    | 0             |
| 10         | Historical Tour      | Athens, Greece                      | 5500.00    | 78            |
| 2          | Cultural Exploration | Kyoto, Japan                        | 3000.00    | 74            |
| 3          | Safari Adventure     | Kruger National Park, South Africa  | 5000.00    | 64            |
| 4          | Rainforest Trekking  | Taman Negara, Pahang, Malaysia      | 500.00     | 0             |
| 5          | City Sightseeing     | Kuala Lumpur, Malaysia              | 300.00     | 53            |
| 6          | Beach Relaxation     | Penang Island, Malaysia             | 700.00     | 0             |
| 7          | Scuba Diving         | Maldives                            | 4500.00    | 87            |
| 8          | Skiing               | Hokkaido, Japan                     | 6000.00    | 71            |
| 9          | River Cruise         | Kinabatangan River, Sabah, Malaysia | 400.00     | 63            |

  
10 rows selected.
```

6.4 Query/Report 4: Customer Bookings by Month

Purpose: To analyze customer bookings by month to understand booking trends.

Importance:

This query analyzes customer bookings by month, serves several important purposes for the company:

1. **Understanding Booking Trends:** By analyzing customer bookings on a monthly basis, the company gains valuable insights into booking trends over time. This information helps them understand which months are typically busier or slower in terms of bookings, allowing them to adjust marketing strategies, pricing, and resource allocation accordingly.
2. **Forecasting and Planning:** By identifying patterns in booking trends, the company can better forecast future demand and plan their operations more effectively. For example, if certain months consistently show higher booking counts, the company can allocate more resources or launch promotional campaigns during those periods to capitalize on increased demand.
3. **Optimizing Resource Allocation:** Understanding booking trends allows the company to optimize resource allocation, such as staffing levels, inventory management, and tour scheduling. By aligning resources with expected demand, the company can avoid underutilization or overburdening of resources, thereby improving operational efficiency.
4. **Customer Experience Enhancement:** By anticipating peak booking periods, the company can ensure that they are adequately prepared to meet customer demand. This enhances the overall customer experience by reducing wait times, ensuring availability of desired services, and providing a seamless booking process.
5. **Strategic Decision Making:** Insights from the query enable strategic decision-making processes within the company. For instance, based on booking trends, the company may decide to expand operations into new markets, introduce seasonal promotions, or develop new tour packages tailored to peak booking periods.

Overall, this query plays a crucial role in helping the company understand booking patterns, optimize operations, enhance customer experience, and make informed strategic decisions to drive business growth and success.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Booking_Count HEADING "Booking Count";
COLUMN Month HEADING "Booking Month" ;

-- Set up report title and page numbering
TTITLE LEFT '                Customer Bookings by Month'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the booking count
BREAK ON Booking_Count SKIP 1

-- Select statement
SELECT
    TO_CHAR(B.B_Date, 'Month') AS Month,
    COUNT(B.Booking_ID) AS Booking_Count
FROM
    Booking B
JOIN
    Customer C ON B.Customer_ID = C.Customer_ID
GROUP BY
    TO_CHAR(B.B_Date, 'Month')
ORDER BY
    TO_CHAR(B.B_Date, 'Month');

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
CLEAR COMPUTES
TTITLE OFF
```

Sample Output: screenshot

Customer Bookings by Month		Page No:	1
Booking Month	Booking Count		
April	46		
August	35		
December	41		
February	33		
January	43		
July	49		
June	37		
March	45		
May			
November	40		
October	37		
September	39		
12 rows selected.			

6.5 Query/Report 5: Total Refunds Issued

Purpose: To calculate the total amount refunded to customers due to cancellations or other reasons.

Importance:

The query calculates the total amount refunded to customers, serves several important purposes for the company:

1. **Financial Analysis:** By calculating the total refunds issued, the company gains insights into its financial performance and liabilities related to refunds. This information is crucial for financial planning, budgeting, and forecasting.
2. **Performance Measurement:** Monitoring the total amount refunded allows the company to assess its performance in managing cancellations and customer dissatisfaction. It provides a key performance indicator (KPI) for evaluating the effectiveness of customer service and operational processes.
3. **Customer Satisfaction:** Refunds are often issued in response to customer complaints, dissatisfaction, or cancellations. By tracking the total refunds issued, the company can identify areas for improvement in its products, services, and customer experience, ultimately aiming to enhance customer satisfaction and loyalty.
4. **Risk Management:** Understanding the total amount refunded helps the company manage financial risks associated with cancellations, returns, or other unforeseen circumstances. It allows them to assess the impact of refunds on cash flow and profitability and take appropriate measures to mitigate risks.
5. **Compliance and Reporting:** Tracking refunds is essential for compliance with financial regulations and reporting requirements. It ensures transparency and accuracy in financial statements and facilitates audits and regulatory filings.
6. **Decision Making:** Insights from the total refunds issued inform strategic decision-making processes within the company. For example, if a significant portion of revenue is being refunded due to specific issues, management may decide to implement corrective actions, revise policies, or invest in training to address the root causes.

Overall, this query plays a critical role in financial management, customer satisfaction, risk mitigation, compliance, and strategic decision-making, contributing to the company's operational efficiency and long-term success.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Cancellation_ID FORMAT A20 HEADING "Cancellation Id";
COLUMN C_Date FORMAT A13 HEADING "Date";
COLUMN R_Date FORMAT A13 HEADING "Refund Date" ;
COLUMN Amount FORMAT 999999.99 HEADING "Amount (RM)" ;

-- Set up report title and page numbering
TTITLE CENTER 'The Total Amount Refunded to Customers'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the cancellation id
BREAK ON Cancellation_ID SKIP 1

-- Select statement
SELECT
    C.Cancellation_ID,
    R.Amount,
    R.R_Date
FROM
    Cancellation C
JOIN
    Refund R ON C.Cancellation_ID = R.Cancellation_ID
ORDER BY
    R.Amount DESC;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

SQL> START "C:\Database Assignment\Query\Query 5.txt"			The Total Amount Refunded to Customers			Page No:	4
Session altered.							
			The Total Amount Refunded to Customers			Page No:	1
Cancellation Id	Amount (RM)	Refund Date	Cancellation Id	Amount (RM)	Refund Date		
1	45000.00	05/08/2022	79	11167.00	18/01/2021		
11	36000.00	10/11/2022	82	11108.00	02/04/2022		
8	36000.00	03/08/2021	27	11065.00	18/10/2023		
2	27000.00	27/12/2021	60	10740.00	14/02/2021		
42	19944.00	30/11/2022	18	10180.00	20/09/2021		
34	19784.00	05/03/2021	102	9289.00	22/01/2021		
66	19756.00	04/03/2021	31	8784.00	07/01/2021		
33	19650.00	02/09/2023	88	8761.00	02/04/2022		
87	19320.00	04/04/2022	26	8663.00	26/01/2023		
31	19268.00	22/09/2022	44	8328.00	28/03/2023		
72	19245.00	27/04/2023	36	8193.00	27/03/2022		
99	18967.00	23/03/2023	54	8123.00	01/01/2023		
78	18925.00	15/11/2022	92	8102.00	26/12/2023		
91	18166.00	30/03/2023	52	7965.00	08/12/2022		
32	18034.00	14/04/2023	93	7940.00	29/07/2021		

The Total Amount Refunded to Customers			Page No:	7
Cancellation Id	Amount (RM)	Refund Date		
81	2779.00	29/10/2022		
10	2400.00	02/06/2021		
79	2143.00	01/04/2023		
6	2100.00	22/05/2022		
21	1946.00	22/06/2023		
102	1857.00	05/01/2021		
53	1534.00	03/07/2021		
22	1384.00	05/09/2022		
82	1132.00	31/08/2021		
97	1031.00	13/05/2021		
100 rows selected.				

6.6 Query/Report 6: Booking History with Cancellations

Purpose: To track booking history including cancellations, providing insights into customer behavior and booking patterns.

Importance:

This query serves several important purposes for the company:

1. **Tracking Booking History:** By providing a comprehensive view of booking history, including cancellations, the company gains insights into customer behavior and booking patterns over time. This information helps them understand how customers interact with their services, which packages are most frequently booked, and the reasons behind cancellations.
2. **Identifying Trends and Patterns:** Analyzing booking history allows the company to identify trends and patterns in customer behavior, such as popular booking dates, preferred package types, and common reasons for cancellations. By recognizing these patterns, the company can tailor their offerings and marketing strategies to better meet customer needs and preferences.
3. **Improving Customer Experience:** Understanding booking history, including cancellations, enables the company to address pain points and improve the overall customer experience. For example, if cancellations are frequent for a particular package due to scheduling conflicts, the company may adjust the timing or offer flexible booking options to accommodate customers' schedules.
4. **Optimizing Operations:** Insights from booking history help the company optimize its operations, such as staffing, inventory management, and resource allocation. By understanding peak booking periods and the likelihood of cancellations, the company can ensure that they have the necessary resources in place to meet demand effectively while minimizing losses from cancellations.
5. **Enhancing Decision Making:** The data provided by the query supports informed decision-making processes within the company. For instance, based on booking history, the company may decide to introduce new packages, refine existing offerings, or implement targeted marketing campaigns to attract and retain customers.

Overall, this query plays a crucial role in helping the company track booking history, understand customer behavior, and make data-driven decisions to optimize operations and enhance the customer experience.

Query:

```
ACCEPT StartDate PROMPT 'Enter Start Date (dd/mm/yyyy): '
ACCEPT EndDate PROMPT 'Enter End Date (dd/mm/yyyy): '

-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Booking_ID FORMAT A12 HEADING "Booking Id";
COLUMN C_Name FORMAT A20 HEADING "Customer Name";
COLUMN Activity FORMAT A30 HEADING "Package Activity" ;
COLUMN B_Date FORMAT A13 HEADING "Booking Date";
COLUMN C_Date FORMAT A20 HEADING "Cancellation Date";

-- Set up report title and page numbering
TTITLE CENTER 'Booking History with Cancellation Date for each
Customer'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the customer name
BREAK ON C_Name SKIP 2

-- Select statement
SELECT
    B.Booking_ID,
    C.C_Name,
    P.Activity,
    B.B_Date,
    NVL(TO_CHAR(ca.C_Date, 'dd/mm/yyyy'), '-') AS C_Date
FROM
    Booking B
JOIN
    Customer C ON B.Customer_ID = C.Customer_ID
JOIN
    Package P ON B.Package_ID = P.Package_ID
LEFT JOIN
    Cancellation ca ON B.Booking_ID = ca.Booking_ID
WHERE
    B.B_Date BETWEEN TO_DATE('&StartDate')
    AND TO_DATE('&EndDate')
ORDER BY
```

C_Name, B.B_Date;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF

Sample Output: screenshot

```
SQL> start "C:\Database Assignment\query\query 6.txt"
Enter Start Date (dd/mm/yyyy): 01/04/2022
Enter End Date (dd/mm/yyyy): 31/07/2022
Session altered.
```

Booking History with Cancellation Date for each Customer					Page No: 1
Booking Id	Customer Name	Package Activity	Booking Date	Cancellation Date	
281	Corbet Dorkins	River Cruise	17/04/2022	11/12/2022	
262		City Sightseeing	07/05/2022	-	
188		City Sightseeing	12/05/2022	22/11/2021	
327		Cultural Exploration	13/05/2022	11/09/2023	
269		Skiing	15/05/2022	10/06/2022	
269	Dorette Riguard	Skiing	15/05/2022	01/08/2021	
474		Skiing	19/07/2022	-	
416		Scuba Diving	15/04/2022	-	
473		Safari Adventure	18/04/2022	11/08/2021	
61		River Cruise	19/04/2022	-	
129	Fifi Laughlin	Cultural Exploration	20/04/2022	-	
133		Skiing	13/05/2022	-	
386		Scuba Diving	24/06/2022	11/04/2021	
245		City Sightseeing	09/07/2022	-	
24		Historical Tour	16/05/2022	-	
169	Garth Murrill	Cultural Exploration	16/07/2022	-	
21		Scuba Diving	16/07/2022	30/05/2021	
315		Skiing	19/07/2022	-	
291	Hyacinthie Arntzen	City Sightseeing	05/04/2022	17/09/2021	
291		City Sightseeing	05/04/2022	19/10/2023	
486		River Cruise	09/04/2022	-	
94		Historical Tour	09/05/2022	-	
385		Skiing	02/07/2022	-	
161		River Cruise	07/07/2022	-	

Booking History with Cancellation Date for each Customer					Page No: 2
Booking Id	Customer Name	Package Activity	Booking Date	Cancellation Date	
229	Hoenzaad Gretham	Skiing	20/05/2022	-	
88		Skiing	22/05/2022	03/09/2021	
293		Historical Tour	23/05/2022	-	
410		River Cruise	07/06/2022	28/08/2023	
311		City Sightseeing	11/07/2022	01/09/2023	
67	Laverna Terran	Scuba Diving	17/07/2022	15/09/2022	
460		River Cruise	21/07/2022	-	
336		Historical Tour	02/05/2022	-	
261		Safari Adventure	03/05/2022	-	
292		Cultural Exploration	12/06/2022	-	
453	Mehetabel Merigon	Skiing	22/06/2022	-	
431		River Cruise	03/07/2022	-	
250		Historical Tour	04/07/2022	22/12/2022	
203		River Cruise	05/07/2022	-	
303		City Sightseeing	20/07/2022	-	
451	Mehetabel Merigon	Skiing	28/07/2022	28/08/2022	
220		City Sightseeing	21/04/2022	-	
50		Skiing	26/05/2022	-	
48		Historical Tour	24/06/2022	-	
157		Safari Adventure	20/04/2022	-	
246	Mehetabel Merigon	Cultural Exploration	10/05/2022	-	
361		River Cruise	17/05/2022	-	

Booking History with Cancellation Date for each Customer					Page No: 3
Booking Id	Customer Name	Package Activity	Booking Date	Cancellation Date	
426	Mehetabel Merigon	Safari Adventure	30/05/2022	-	
342		Scuba Diving	16/06/2022	-	
188		Safari Adventure	28/06/2022	-	
267		Historical Tour	07/07/2022	-	
467		City Sightseeing	08/07/2022	-	
367	Padraic Gillmor	Historical Tour	17/07/2022	-	
424		Skiing	12/04/2022	-	
479		Historical Tour	20/05/2022	-	
337		Scuba Diving	28/05/2022	-	
22		Scuba Diving	20/06/2022	15/04/2023	
418	Scotty Rupel	Safari Adventure	08/07/2022	-	
284		Skiing	19/07/2022	-	
362		Safari Adventure	10/04/2022	-	
9		City Sightseeing	26/04/2022	15/05/2022	
223		City Sightseeing	08/05/2022	23/07/2022	
81	Scotty Rupel	Safari Adventure	18/05/2022	-	
335		River Cruise	24/05/2022	-	
405		Safari Adventure	29/05/2022	-	
346		Scuba Diving	07/07/2022	-	
6		Safari Adventure	14/07/2022	30/07/2022	
385	Scotty Rupel	Scuba Diving	20/07/2022	-	
67		Scuba Diving	20/07/2022	-	

67 rows selected.

6.7 Query/Report 7: Average Rating of Packages

Purpose: To determine the average rating of each package based on customer feedback.

Importance:

This query calculates the average rating of each package based on customer feedback, serves several important purposes for the company:

1. **Performance Evaluation:** By determining the average rating of each package, the company can assess the overall performance and satisfaction levels associated with their offerings. Packages with higher average ratings indicate greater customer satisfaction, while lower ratings may highlight areas for improvement.
2. **Quality Assurance:** Analyzing package ratings allows the company to identify any recurring issues or patterns in customer feedback. This information is valuable for implementing quality assurance measures and refining package features, activities, or services to better meet customer expectations.
3. **Product Development:** Insights from package ratings help inform product development efforts. Positive feedback on certain activities or features may inspire the company to expand or enhance those aspects in future packages, while negative feedback can guide decisions to modify or remove less popular elements.
4. **Marketing and Promotion:** Packages with high average ratings can be highlighted in marketing campaigns and promotional materials to attract new customers. Positive reviews and ratings serve as powerful endorsements, influencing prospective customers' decisions and contributing to increased sales and bookings.
5. **Customer Experience Enhancement:** By continuously monitoring package ratings, the company demonstrates its commitment to delivering exceptional customer experiences. Addressing areas of concern identified through feedback allows the company to proactively improve service quality and maintain customer loyalty.
6. **Competitive Analysis:** Benchmarking package ratings against competitors' offerings provides valuable insights into the company's competitive position within the market. Identifying areas where the company excels or lags behind competitors helps formulate strategies to differentiate offerings and stay ahead in the industry.

Overall, this query plays a crucial role in helping the company assess and improve the quality of its packages, enhance customer satisfaction, drive marketing efforts, and maintain competitiveness in the market. By systematically analyzing package ratings, the company can make data-driven decisions to optimize its product offerings and deliver exceptional value to customers.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Package_ID FORMAT A12 HEADING "Package Id";
COLUMN Activity FORMAT A40 HEADING "Package Activity" ;
COLUMN Avg_Rating FORMAT 9.99 HEADING "Avg Rating";

-- Set up report title and page numbering
TTITLE LEFT '                The Average Rating of Each Packages'-
CENTER '                Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the package id
BREAK ON Package_ID SKIP 2

-- Select statement
SELECT
    P.Package_ID,
    P.Activity,
    AVG(CAST(F.Rating AS FLOAT)) AS Avg_Rating
FROM
    Package P
JOIN
    Booking B ON P.Package_ID = B.Package_ID
JOIN
    Feedback F ON B.Customer_ID = F.Customer_ID
GROUP BY
    P.Package_ID,
    P.Activity
ORDER BY
    P.Package_ID;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

```
SQL> start "C:\Database Assignment\Query\Query 7.txt"
```

```
Session altered.
```

```

          The Average Rating of Each Packag          Page No:    1
Package Id  Package Activity          Avg Rating
-----
10          Historical Tour          3.76
2           Cultural Exploration      3.77
3           Safari Adventure          3.74
5           City Sightseeing          3.69
7           Scuba Diving              3.72
8           Skiing                    3.66
9           River Cruise              3.68
```

```
7 rows selected.
```

6.8 Query/Report 8: Total Revenue by Month for Specific Year

Purpose: To analyze the total revenue generated each month for a specific year entered by the user. This information is valuable for the company as it provides insights into the revenue trends over time, allowing them to make informed decisions regarding their business strategies, budgeting, and resource allocation.

Importance:

The query/report "Total Revenue by Month for Specific Year" serves a critical purpose for the company by providing insights into the revenue generated for each month. Here's why it's important:

1. **Financial Analysis:** By analyzing the total revenue generated each month, the company can assess its financial performance and identify any patterns or trends. This helps in evaluating the effectiveness of marketing campaigns, promotional activities, and pricing strategies.
2. **Budget Planning:** Understanding the revenue fluctuations throughout the year enables the company to plan its budget more effectively. It helps in allocating resources, setting sales targets, and managing expenses based on anticipated revenue streams.
3. **Performance Evaluation:** Comparing revenue figures across different months allows the company to evaluate the success of its operations and initiatives. It helps in identifying peak seasons, slow periods, and areas for improvement.
4. **Strategic Decision Making:** The insights gained from analyzing revenue by month aid in making strategic decisions such as launching new products or services, expanding into new markets, or optimizing existing offerings based on demand patterns.
5. **Customer Insights:** Revenue analysis can also provide indirect insights into customer behavior and preferences. For example, higher revenue in certain months may indicate increased customer demand for specific products or services, allowing the company to tailor its offerings accordingly.

Overall, Query/Report 8 plays a crucial role in providing the company with actionable insights into its revenue performance, facilitating better decision-making and strategic planning to drive growth and profitability.

Query:

```
-- Prompt for user input
ACCEPT InputYear PROMPT 'Enter the year (YYYY): '

-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Month FORMAT A20 HEADING "Month";
COLUMN Total_Revenue HEADING "Total Revenue(RM)";

-- Set up report title and page numbering
TTITLE LEFT '    Total Revenue by Month for &InputYear'-
CENTER 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the month
BREAK ON Month SKIP 1

-- Select statement
SELECT
    TO_CHAR(B.B_Date, 'Month') AS Month,
    SUM(P.Price) AS Total_Revenue
FROM
    Booking B
JOIN
    Package P ON B.Package_ID = P.Package_ID
WHERE
    TO_CHAR(B.B_Date, 'YYYY') = '&InputYear'
GROUP BY
    TO_CHAR(B.B_Date, 'Month')
ORDER BY
    TO_CHAR(B.B_Date, 'Month');

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
CLEAR COMPUTES
TTITLE OFF
```


Sample Output: screenshot

```
SQL> start "C:\Database Assignment\Query\Query 8.txt"
Enter the year (YYYY): 2022

Session altered.

old 9:      TO_CHAR(B.B_Date, 'YYYY') = '&InputYear'
new 9:      TO_CHAR(B.B_Date, 'YYYY') = '2022'

      Total Revenue by Month for 2022                      Page No: 1
Month ----- Total Revenue(RM) -----
April                      30600
August                     46700
December                   58700
February                   41100
January                    43000
July                       80300
June                       33400
March                      66600
May                        89700
November                   38200
October                    52200
September                  34400

12 rows selected.
```

6.9 Query/Report 9: Top 5 Most Booked Packages

Purpose: To identify the top 5 most booked packages, helping to understand customer preferences and demands.

Importance:

1. **Understanding Customer Preferences:** Identifying the top 5 most booked packages helps the company understand which packages are in high demand among customers. This insight allows the company to tailor its marketing efforts, promotional campaigns, and product development strategies to better meet customer preferences.
2. **Resource Allocation:** By knowing which packages are the most popular, the company can allocate resources more effectively. It can ensure that sufficient staff, inventory, and infrastructure are available to meet the demand for these packages, thereby optimizing operational efficiency and customer satisfaction.
3. **Revenue Maximization:** Popular packages typically generate higher revenue due to increased bookings. By focusing on promoting and enhancing these top-performing packages, the company can maximize its revenue potential and overall profitability.
4. **Competitive Advantage:** Understanding which packages resonate the most with customers can provide the company with a competitive advantage. It enables them to differentiate themselves from competitors by offering unique or highly sought-after experiences, attracting more customers and enhancing brand loyalty.
5. **Strategic Planning:** Insights from the top 5 most booked packages can inform strategic planning initiatives. The company can use this information to identify trends, forecast future demand, and make informed decisions about product diversification, pricing strategies, and market expansion opportunities.
6. **Customer Satisfaction:** By focusing on delivering the most popular packages, the company can enhance overall customer satisfaction. Meeting customer expectations and delivering exceptional experiences result in positive reviews, word-of-mouth referrals, and repeat business, further driving growth and success.

In summary, Query/Report 9 plays a vital role in helping the company understand customer preferences, optimize resource allocation, maximize revenue, gain a competitive edge, inform strategic planning, and ultimately enhance customer satisfaction and business performance.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Package_ID FORMAT A10 HEADING "Package Id";
COLUMN Location FORMAT A40 HEADING "Location" ;
COLUMN Activity FORMAT A30 HEADING "Package Activity" ;
COLUMN Booking_Count HEADING "Booking Count";

-- Set up report title and page numbering
TTITLE LEFT '                                Top 5 Most Popular
Packages' SKIP 1-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the package id
BREAK ON Package_ID SKIP 1

-- Select statement
SELECT * FROM (
            SELECT      P.Package_ID,
                        P.Activity,
                        P.Location,
                        COUNT(B.Booking_ID) AS Booking_Count
            FROM          Package P
            LEFT JOIN      Booking B ON P.Package_ID = B.Package_ID
            GROUP BY      P.Package_ID, P.Activity, P.Location
            ORDER BY      Booking_Count DESC
        )
WHERE ROWNUM <= 5;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

```
SQL> START "C:\Database Assignment\Query\Query 9.txt"
Session altered.
```

Top 5 Most Popular Packages				Page No:	1
Package Id	Package Activity	Location	Booking Count		
7	Scuba Diving	Maldives	87		
10	Historical Tour	Athens, Greece	78		
2	Cultural Exploration	Kyoto, Japan	74		
8	Skiing	Hokkaido, Japan	71		
3	Safari Adventure	Kruger National Park, South Africa	64		

6.10 Query/Report 10: Customers with Multiples Bookings

Purpose: To identify customers who have made multiple bookings, potentially indicating loyal or repeat customers.

Importance:

1. **Customer Loyalty:** Identifying customers who have made multiple bookings allows the company to recognize and appreciate loyal patrons. By acknowledging their loyalty, the company can strengthen its relationship with these customers, potentially leading to increased customer retention and advocacy.
2. **Repeat Business:** Repeat customers are more likely to make additional purchases and engage with the company's products or services over time. Recognizing and rewarding these customers can encourage them to continue doing business with the company, thereby contributing to sustained revenue growth.
3. **Targeted Marketing:** Understanding the behavior of customers who make multiple bookings enables the company to tailor its marketing strategies and promotional efforts more effectively. By targeting these customers with personalized offers, discounts, or incentives, the company can encourage repeat bookings and foster customer loyalty.
4. **Customer Experience Improvement:** Analyzing the booking patterns of repeat customers can provide insights into their preferences, expectations, and satisfaction levels. This information can be used to enhance the customer experience, streamline booking processes, and address any pain points or areas for improvement.
5. **Revenue Maximization:** Repeat customers often represent a significant source of revenue for the company. By identifying and nurturing these relationships, the company can maximize its revenue potential and achieve sustainable growth in the long term.

Overall, Query/Report 10 plays a crucial role in helping the company recognize and cultivate relationships with its most valuable customers. By focusing on customer retention and loyalty, the company can drive long-term success and profitability in a competitive market environment.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Customer_ID FORMAT A30 HEADING "Customer Id";
COLUMN C_Name FORMAT A30 HEADING "Name";
COLUMN Booking_Count HEADING "Booking Count";

-- Set up report title and page numbering
TTITLE LEFT '                Customers Who Have Made Multiple
Bookings' -
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the customer id
BREAK ON Customer_ID SKIP 1

-- Select statement
SELECT      C.Customer_ID,
            C.C_Name,
            COUNT(B.Booking_ID) AS Booking_Count
FROM        Customer C
JOIN        Booking B ON C.Customer_ID = B.Customer_ID
GROUP BY    C.Customer_ID, C.C_Name
HAVING      COUNT(B.Booking_ID) > 1
ORDER BY    C.Customer_ID;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

Customers Who Have Made Multiple Bookings			Page No:	1
Customer Id	Name	Booking Count		
1	Scotty Rupel	56		
10	Hyacinthie Arntzen	56		
2	Mehetabel Merigon	40		
3	Padraic Gillmor	46		
4	Fifi Laughlin	38		
5	Garth Murrill	45		
6	Laverna Terran	50		
7	Corbet Dorkins	50		
8	Koenraad Gretham	54		
9	Dorette Riguard	55		
10 rows selected.			English US	

6.11 Query/Report 11: Feedback Details with Customer Information

Purpose: To view detailed feedback in lower rating along with customer information for further analysis or response.

Importance:

This information is crucial for the company as it allows them to analyze customer dissatisfaction, address any issues, and improve their products or services to enhance customer satisfaction levels.

1. Identifying Pain Points: By analyzing feedback with lower ratings, the company can identify specific areas where customers are dissatisfied or encountering problems. This insight helps in prioritizing areas for improvement and allocating resources effectively.

2. Customer Retention: Addressing negative feedback promptly and effectively can help in retaining customers. By understanding the reasons behind low ratings and addressing them, the company can prevent customer churn and build long-term relationships with its customer base.

3. Product/Service Improvement: Feedback with lower ratings often contains valuable insights into product or service shortcomings. Analyzing this feedback helps in identifying opportunities for enhancement or refinement, leading to improved offerings that better meet customer needs and preferences.

4. Enhancing Reputation: By actively addressing and resolving customer complaints or concerns highlighted in the feedback, the company demonstrates its commitment to customer satisfaction and quality. This proactive approach can enhance the company's reputation and credibility in the market.

5. Continuous Improvement: Regularly reviewing feedback allows the company to track its performance over time and measure the effectiveness of any implemented changes or improvements. It fosters a culture of continuous improvement, where feedback serves as a catalyst for positive change and innovation.

Overall, Query/Report 11 plays a vital role in helping the company understand customer sentiments, address issues, and drive improvements in its products or services, ultimately leading to higher levels of customer satisfaction and loyalty.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Feedback_ID FORMAT A15 HEADING "Feedback Id";
COLUMN C_Name FORMAT A20 HEADING "Name";
COLUMN Rating FORMAT A10 HEADING "Rating" ;
COLUMN Comments FORMAT A50 HEADING "Comments";
COLUMN F_Date FORMAT A15 HEADING "Feedback Date";

-- Set up report title and page numbering
TTITLE CENTER 'Feedback From Customers'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the customer id
BREAK ON Comments SKIP 1

-- Select statement
SELECT
    F.Feedback_ID,
    C.C_Name,
    F.Rating,
    F.Comments,
    F.F_Date
FROM
    Feedback F
JOIN
    Customer C ON F.Customer_ID = C.Customer_ID
WHERE
    F.Rating IN (1, 2, 3)
ORDER BY
    Rating DESC;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

SQL> START "C:\Database Assignment\Query\Query 11.txt"

Session altered.

Feedback From Customers				Page No: 1
Feedback Id	Name	Rating	Comments	Feedback Date
4	Garth Murrill	3	Enjoyed the activities, but the accommodation could be better.	10/02/2022
53	Dorette Riguard	3	Expected more for the price paid.	27/05/2022
98	Dorette Riguard	3	Had a fantastic time, but the tour felt rushed at times.	20/03/2022
95	Garth Murrill	3	Encountered some issues with the booking process, but staff were helpful in resolving them.	20/02/2023
93	Mehetabel Merigon	3	Had a fantastic time, but the tour felt rushed at times.	20/03/2022
89	Dorette Riguard	3	The scenery was breathtaking, worth every penny!	20/02/2023
86	Garth Murrill	3	Average experience, expected more for the price.	17/02/2022
84	Mehetabel Merigon	3	The scenery was breathtaking, worth every penny!	20/02/2023
80	Dorette Riguard	3	Encountered some issues with the booking process, but staff were helpful in resolving them.	20/02/2023
77	Garth Murrill	3	Disappointed with the lack of communication regarding itinerary changes.	20/07/2021

Feedback From Customers				Page No: 4
Feedback Id	Name	Rating	Comments	Feedback Date
62	Dorette Riguard	3	Some activities were great, others not so much.	11/10/2022
34	Scotty Rupel	2	Disappointed with the quality of service provided.	19/01/2023
55	Corbet Dorkins	2		31/08/2022
29	Hyacinthie Arntzen	2	Expected more for the price paid.	21/09/2022
100	Corbet Dorkins	2	Encountered some issues with the booking process, but staff were helpful in resolving them.	20/02/2023
64	Corbet Dorkins	2	Disappointed with the lack of communication regarding itinerary changes.	15/11/2021
22	Koenraad Gretham	2	Had high expectations but was disappointed overall.	01/08/2021
6	Garth Murrill	2	Disappointed with the lack of communication regarding itinerary changes.	20/07/2021
17	Padraic Gillmor	2	Disappointed with the quality of accommodation.	30/09/2021
82	Corbet Dorkins	2	The whole trip was very rushed.	18/07/2021
91	Corbet Dorkins	2	Average experience, expected more for the price.	17/02/2022
39	Mehetabel Merigon	2	Expected more for the price paid.	14/07/2023

Feedback From Customers				Page No: 5
Feedback Id	Name	Rating	Comments	Feedback Date
73	Corbet Dorkins	2	Great experience overall, but could improve on transportation.	30/09/2021
48	Koenraad Gretham	2	Had high expectations but was disappointed overall.	15/07/2022

42 rows selected.

6.12 Query/Report 12: Packages with No Bookings

Purpose: To identify packages that have not been booked, which may require promotional efforts or adjustments.

Importance:

1. Identifying Underperforming Packages: This query helps the company identify packages that have not been booked. This is essential for evaluating the performance of different offerings and understanding which ones may require attention or adjustments. By identifying underperforming packages, the company can take proactive steps to improve their marketability and attractiveness to customers.

2. Promotional Efforts: Packages with no bookings may indicate a lack of awareness or interest among customers. By identifying these packages, the company can develop targeted promotional campaigns to increase visibility and attract bookings. This could include marketing initiatives, special promotions, or discounts to incentivize customers to book these packages.

3. Optimizing Resource Allocation: Knowing which packages are not generating bookings allows the company to reallocate resources effectively. It helps in prioritizing marketing efforts, focusing on high-demand packages, and optimizing inventory or capacity utilization. By reallocating resources from underperforming packages to those with higher demand, the company can maximize revenue and profitability.

4. Adjustments and Improvements: This query also provides insights into potential areas for improvement or adjustments in package offerings. By analyzing the characteristics of packages with no bookings, such as activity type or location, the company can identify trends or preferences among customers. This information can guide product development efforts, allowing the company to tailor its offerings to better meet customer needs and preferences.

5. Strategic Planning: Understanding the performance of packages with no bookings is crucial for strategic planning. It helps the company identify market gaps, competitive threats, and opportunities for expansion or diversification. By addressing underperforming packages and optimizing the product portfolio, the company can strengthen its competitive position and drive long-term growth and profitability.

Overall, Query/Report 12 plays a vital role in helping the company assess the performance of its package offerings and make data-driven decisions to improve market competitiveness, customer satisfaction, and financial performance.

Query:

```
-- Set up the environment
SET linesize 120
SET pagesize 35

-- Set the date format for the session
ALTER SESSION SET NLS_DATE_FORMAT = 'dd/mm/yyyy';

-- Define column formats and headings
COLUMN Package_ID FORMAT A15 HEADING "Package Id";
COLUMN Activity FORMAT A25 HEADING "Package Activity" ;
COLUMN Location FORMAT A35 HEADING "Location";

-- Set up report title and page numbering
TTITLE LEFT '                               Package With No Booking'-
RIGHT 'Page No: ' FORMAT 999 SQL.PNO SKIP 2

-- Set up a break on the customer id
BREAK ON Package_ID SKIP 2

-- Select statement
SELECT
    P.Package_ID,
    P.Activity,
    P.Location
FROM
    Package P
LEFT JOIN
    Booking B ON P.Package_ID = B.Package_ID
WHERE
    B.Booking_ID IS NULL;

-- Clear formatting and titles
CLEAR COLUMNS
CLEAR BREAKS
TTITLE OFF
```

Sample Output: screenshot

Package with no booking			Page No:	1
Package Id	Package Activity	Location		
1	Island Hopping	Langkawi, Malaysia		
4	Rainforest Trekking	Taman Negara, Pahang, Malaysia		
6	Beach Relaxation	Penang Island, Malaysia		