**Name: SAURABH SHEKHAR PISAL CWID: A20403781**

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[Predictive Analytics 40](#_Toc500709698)

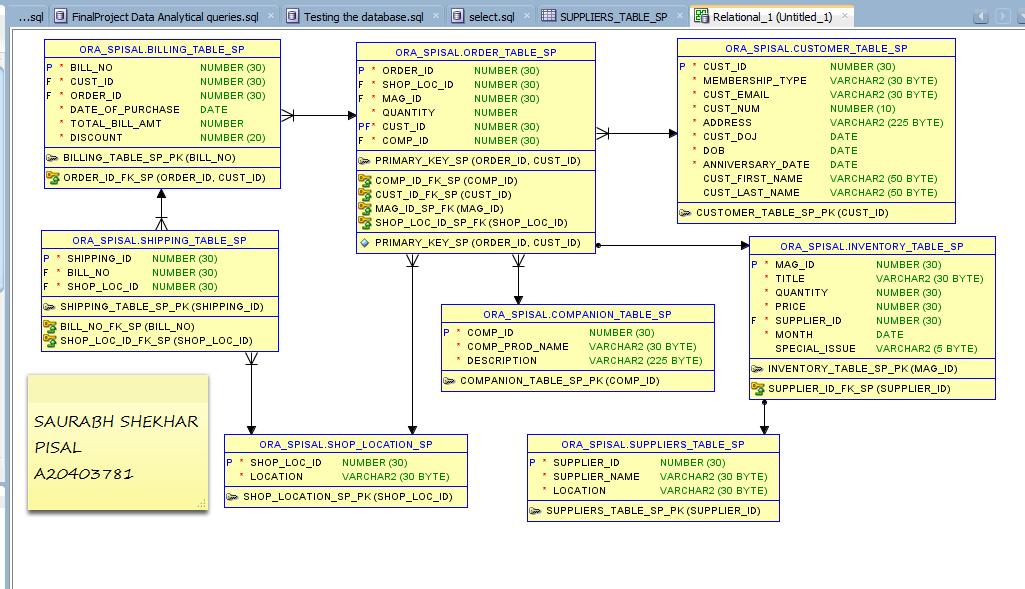
# PHASE 5: Review of Current Project Status

The current project has come to a conclusion where the Database logical models have finally come to their physical state and data has been added to it for the customer. I.e. For Mani’s Magazine.

The database project for the Magazine store has been complete tested and verified for all its validations and now can be successfully implemented on the production environment and good to use.

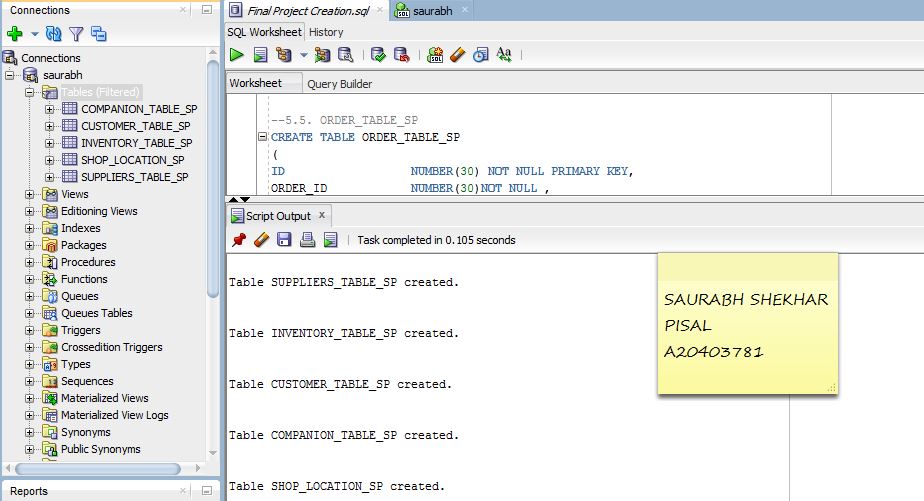
# PHASE 6: Designing the Physical Application

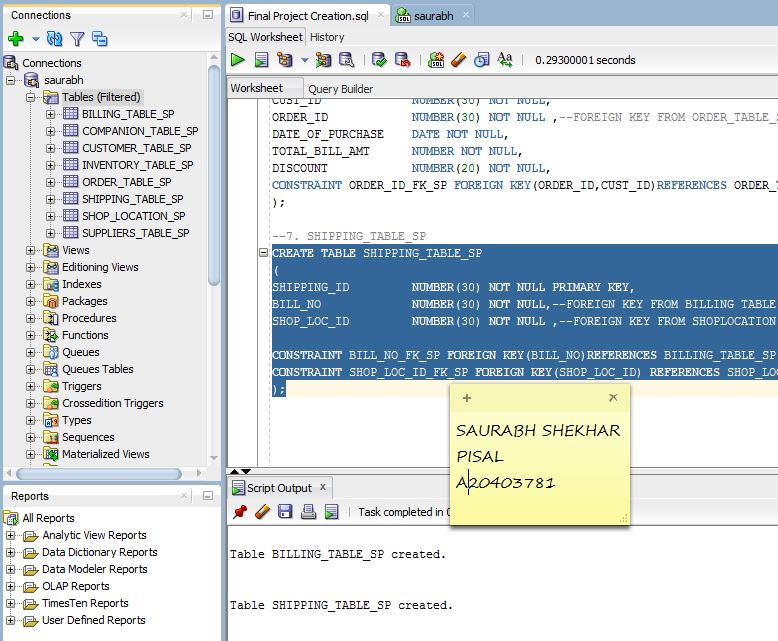
## ERD



## DATABASE TABLE CREATION

### SCREENSHOTS.





### CODE:

-- 1. SUPPLIERS\_TABLE\_SP DONE

CREATE TABLE SUPPLIERS\_TABLE\_SP

(

SUPPLIER\_ID NUMBER(30) NOT NULL PRIMARY KEY,

SUPPLIER\_NAME VARCHAR2(30)NOT NULL,

LOCATION VARCHAR2(30)NOT NULL

);

-- 2. INVENTORY\_TABLE\_SP DONE

CREATE TABLE INVENTORY\_TABLE\_SP

(

MAG\_ID NUMBER(30) NOT NULL PRIMARY KEY,

TITLE VARCHAR2(30)NOT NULL,

QUANTITY NUMBER(30)NOT NULL,

PRICE NUMBER(30)NOT NULL,

SUPPLIER\_ID NUMBER(30)NOT NULL, --FOREIGN KEY FROM SUPPLIERS\_TABLE\_SP

MONTH DATE NOT NULL,

SPECIAL\_ISSUE VARCHAR2(5) CHECK(SPECIAL\_ISSUE='YES' OR SPECIAL\_ISSUE='NO'),

CONSTRAINT SUPPLIER\_ID\_FK\_SP FOREIGN KEY(SUPPLIER\_ID) REFERENCES SUPPLIERS\_TABLE\_SP(SUPPLIER\_ID)

);

-- 3. CUSTOMER\_TABLE\_SP DONE

CREATE TABLE CUSTOMER\_TABLE\_SP

(

CUST\_ID NUMBER(30) NOT NULL PRIMARY KEY,

MEMBERSHIP\_TYPE VARCHAR2(30)NOT NULL,

CUST\_EMAIL VARCHAR2(30)NOT NULL,

CUST\_NUM NUMBER(10) NOT NULL,

ADDRESS VARCHAR2(225) NOT NULL,

CUST\_DOJ DATE NOT NULL,

DOB DATE NOT NULL,

ANNIVERSARY\_DATE DATE NOT NULL

);

-- 4. COMPANION\_TABLE\_SP DONE

CREATE TABLE COMPANION\_TABLE\_SP

(

COMP\_ID NUMBER(30) NOT NULL PRIMARY KEY,

COMP\_PROD\_NAME VARCHAR2(30)NOT NULL,

DESCRIPTION VARCHAR2(225)NOT NULL

);

-- 5. SHOP\_LOCATION\_SP DONE

CREATE TABLE SHOP\_LOCATION\_SP

(

SHOP\_LOC\_ID NUMBER(30) NOT NULL PRIMARY KEY,

LOCATION VARCHAR2(30)NOT NULL

);

--5.5. ORDER\_TABLE\_SP DONE

--DROP TABLE ORDER\_TABLE\_SP

CREATE TABLE ORDER\_TABLE\_SP

(

--ID NUMBER(30) NOT NULL PRIMARY KEY,

ORDER\_ID NUMBER(30)NOT NULL ,

SHOP\_LOC\_ID NUMBER(30)NOT NULL, -- FOREGIN KEY FROM SHOP\_LOCATION\_SP TABLE

MAG\_ID NUMBER(30) NOT NULL,-- FOREIGN KEY FROM INENTORY\_TABLE\_SP

QUANTITY NUMBER NOT NULL,

CUST\_ID NUMBER(30) NOT NULL ,--FOREIGN KEY FROM CUSTOMER\_TABLE\_SP

COMP\_ID NUMBER(30) NOT NULL,--FOREIGN KEY FROM COMPANION\_TABLE\_SP

CONSTRAINT PRIMARY\_KEY\_SP PRIMARY KEY(ORDER\_ID,CUST\_ID),

CONSTRAINT SHOP\_LOC\_ID\_SP\_FK FOREIGN KEY(SHOP\_LOC\_ID) REFERENCES SHOP\_LOCATION\_SP(SHOP\_LOC\_ID),

CONSTRAINT MAG\_ID\_SP\_FK FOREIGN KEY(MAG\_ID) REFERENCES INVENTORY\_TABLE\_SP(MAG\_ID),

CONSTRAINT CUST\_ID\_FK\_SP FOREIGN KEY(CUST\_ID) REFERENCES CUSTOMER\_TABLE\_SP(CUST\_ID),

CONSTRAINT COMP\_ID\_FK\_SP FOREIGN KEY(COMP\_ID)REFERENCES COMPANION\_TABLE\_SP(COMP\_ID)

);

-- 6. BILLING\_TABLE\_SP DONE

CREATE TABLE BILLING\_TABLE\_SP

(

BILL\_NO NUMBER(30) NOT NULL PRIMARY KEY,

CUST\_ID NUMBER(30) NOT NULL,

ORDER\_ID NUMBER(30) NOT NULL ,--FOREIGN KEY FROM ORDER\_TABLE\_SP

DATE\_OF\_PURCHASE DATE NOT NULL,

TOTAL\_BILL\_AMT NUMBER NOT NULL,

DISCOUNT NUMBER(20) NOT NULL,

CONSTRAINT ORDER\_ID\_FK\_SP FOREIGN KEY(ORDER\_ID,CUST\_ID)REFERENCES ORDER\_TABLE\_SP(ORDER\_ID,CUST\_ID)

);

--7. SHIPPING\_TABLE\_SP

CREATE TABLE SHIPPING\_TABLE\_SP

(

SHIPPING\_ID NUMBER(30) NOT NULL PRIMARY KEY,

BILL\_NO NUMBER(30) NOT NULL,--FOREIGN KEY FROM BILLING TABLE

SHOP\_LOC\_ID NUMBER(30) NOT NULL ,--FOREIGN KEY FROM SHOPLOCATION TABLE

CONSTRAINT BILL\_NO\_FK\_SP FOREIGN KEY(BILL\_NO)REFERENCES BILLING\_TABLE\_SP(BILL\_NO),

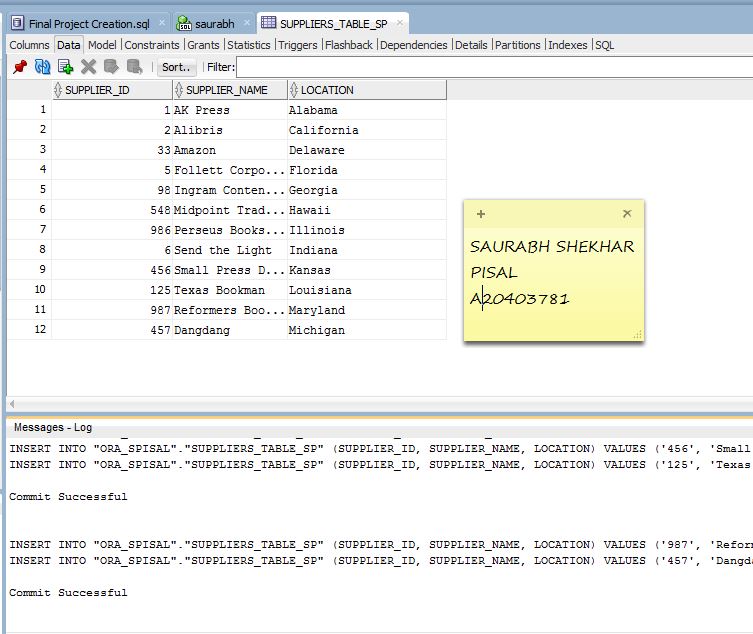
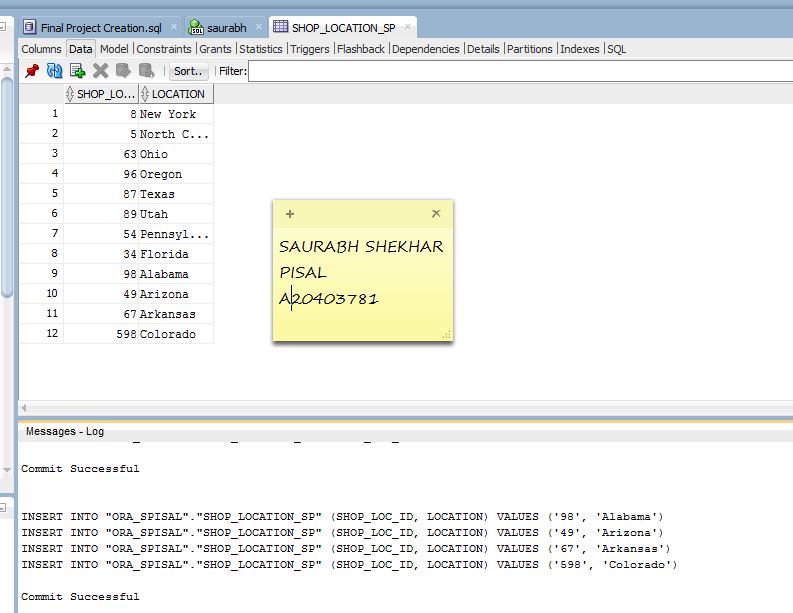
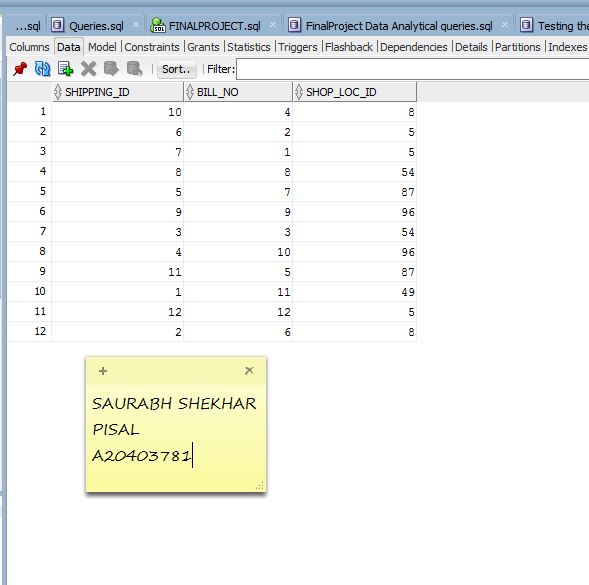
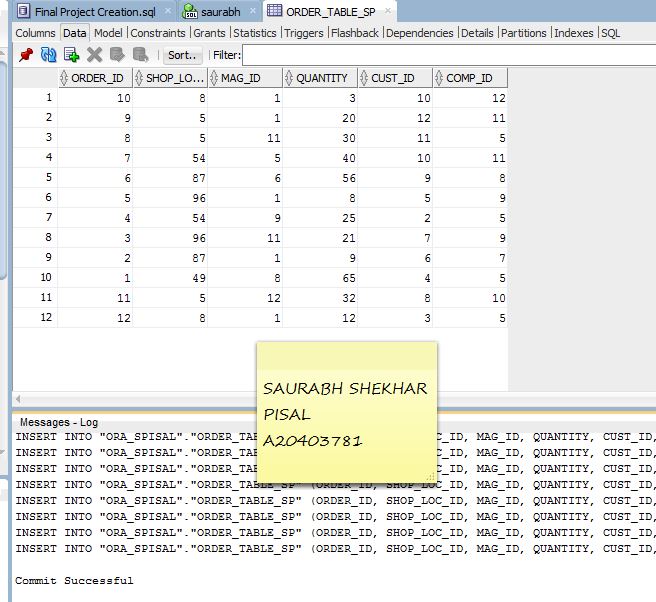
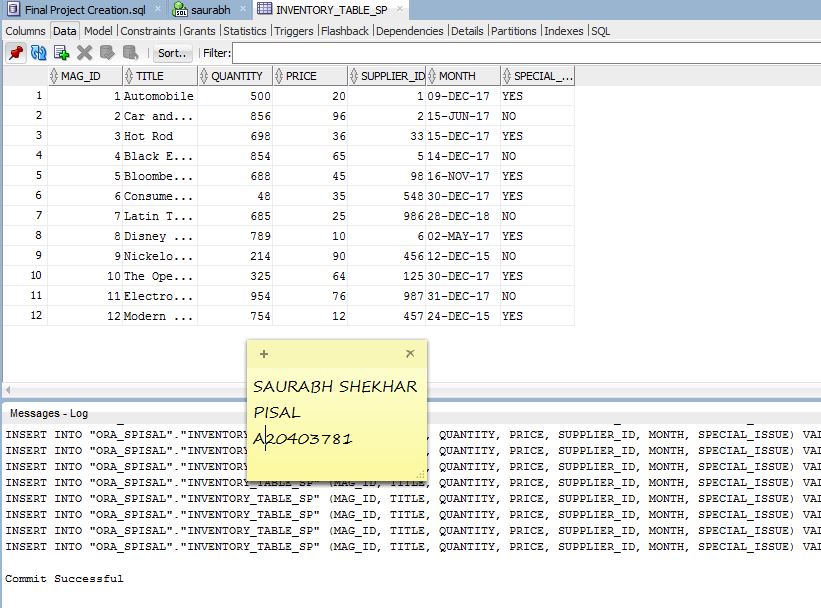
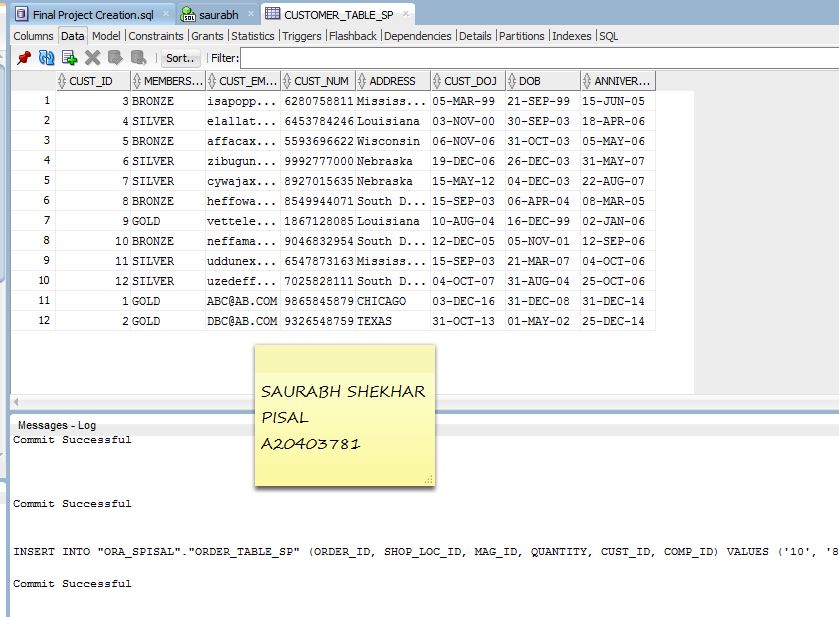
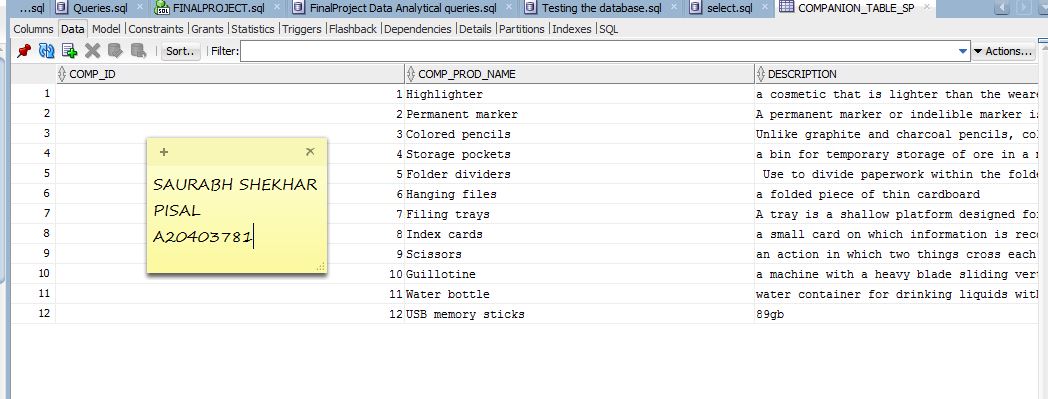
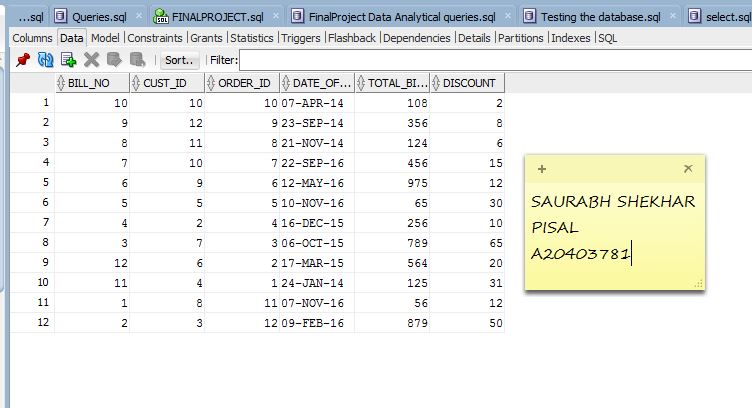
CONSTRAINT SHOP\_LOC\_ID\_FK\_SP FOREIGN KEY(SHOP\_LOC\_ID) REFERENCES SHOP\_LOCATION\_SP(SHOP\_LOC\_ID)

);

# PHASE 7: LOADING DATA WITH VALID DATA

## DATABASE TABLE DATA INSERTION

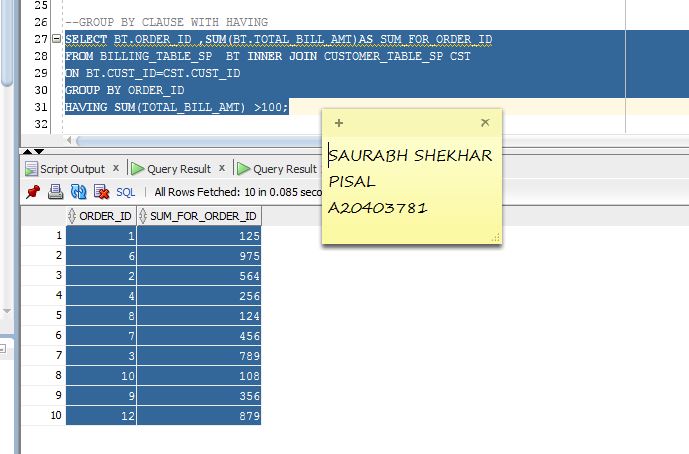
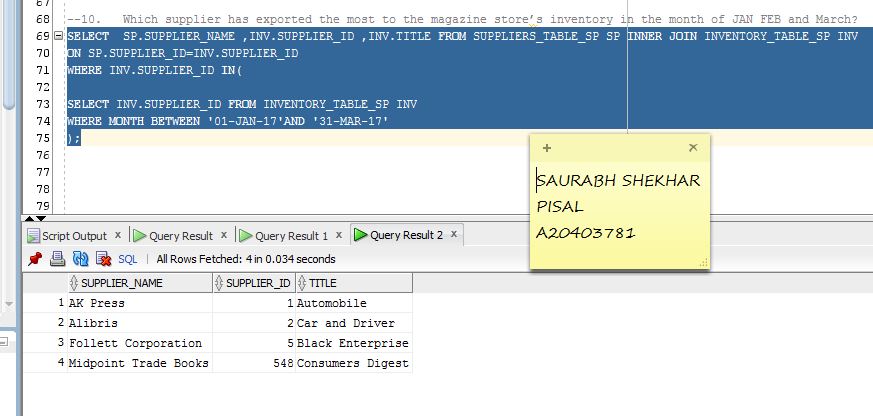
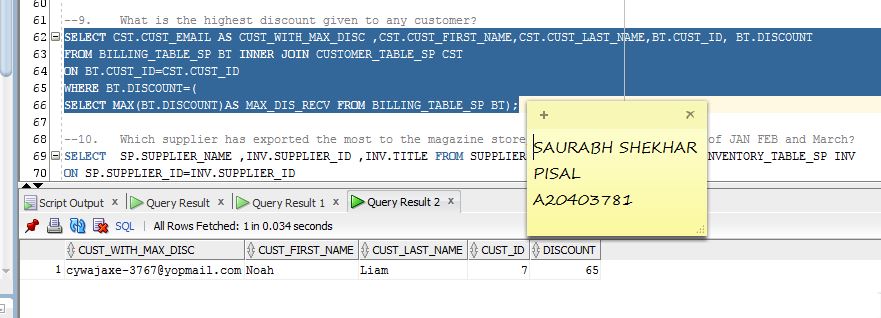
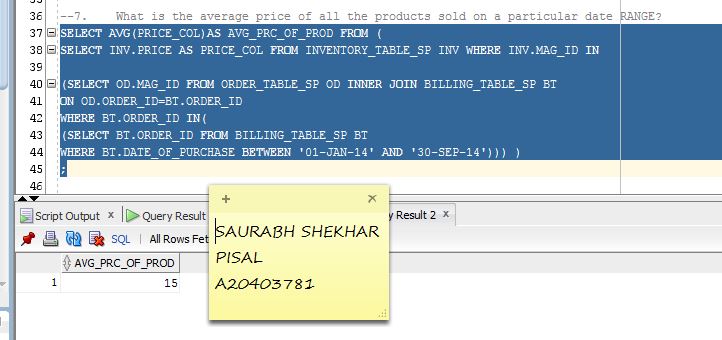
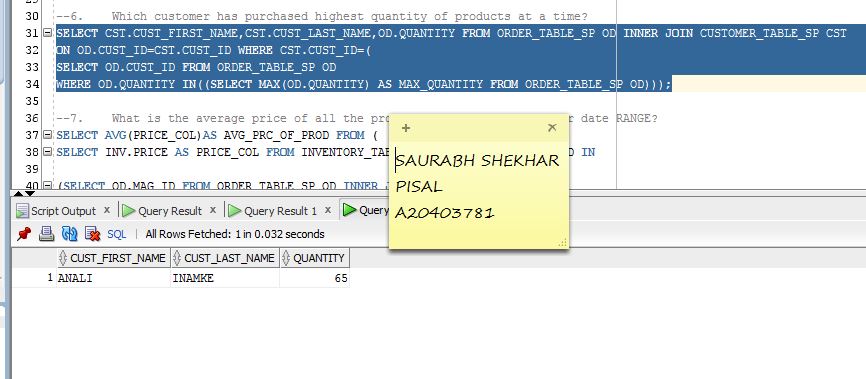
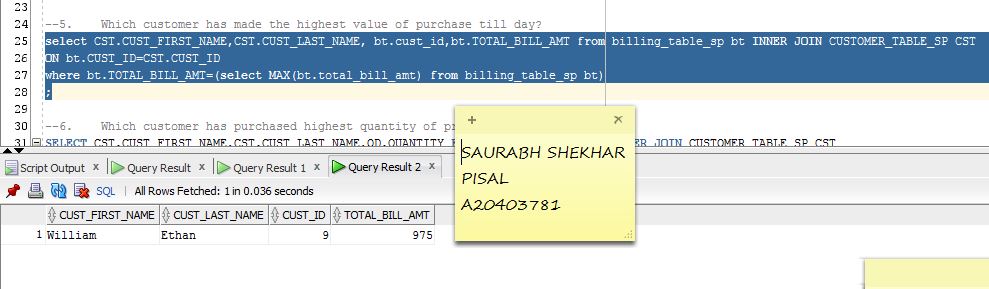
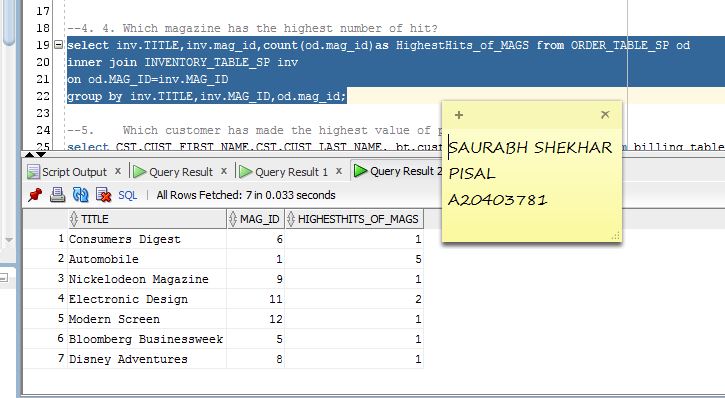
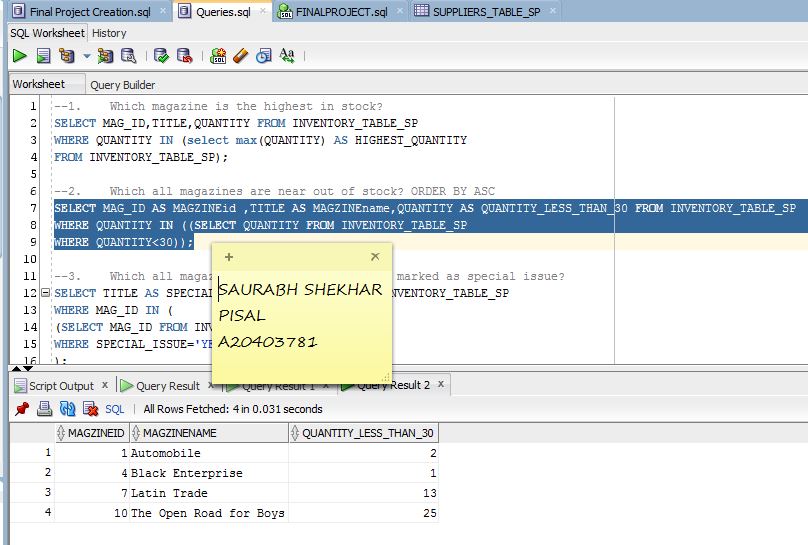
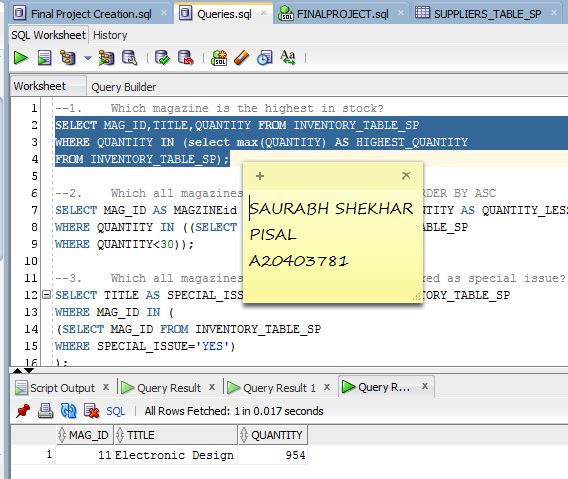
### SCREENSHOTS.



# PHASE 8: TESTING THE DATABASE SYSTEM

## QUERIES:

### DATA ANALYTICAL QUERIES SCREENSHOTS:



### CODE:

--1. Which magazine is the highest in stock?

SELECT MAG\_ID,TITLE,QUANTITY FROM INVENTORY\_TABLE\_SP

WHERE QUANTITY IN (select max(QUANTITY) AS HIGHEST\_QUANTITY

FROM INVENTORY\_TABLE\_SP);

--2. Which all magazines are near out of stock? ORDER BY ASC

SELECT MAG\_ID AS MAGZINEid ,TITLE AS MAGZINEname,QUANTITY AS QUANTITY\_LESS\_THAN\_30 FROM INVENTORY\_TABLE\_SP

WHERE QUANTITY IN ((SELECT QUANTITY FROM INVENTORY\_TABLE\_SP

WHERE QUANTITY<30));

--3. Which all magazines in the inventory are marked as special issue?

SELECT TITLE AS SPECIAL\_ISSUES\_OF\_MAGZINE FROM INVENTORY\_TABLE\_SP

WHERE MAG\_ID IN (

(SELECT MAG\_ID FROM INVENTORY\_TABLE\_SP

WHERE SPECIAL\_ISSUE='YES')

);

--4. Which magazine has the highest number of hit?

select inv.TITLE,inv.mag\_id,count(od.mag\_id)as HighestHits\_of\_MAGS from ORDER\_TABLE\_SP od

inner join INVENTORY\_TABLE\_SP inv

on od.MAG\_ID=inv.MAG\_ID

group by inv.TITLE,inv.MAG\_ID,od.mag\_id;

--5. Which customer has made the highest value of purchase till day?

select CST.CUST\_FIRST\_NAME,CST.CUST\_LAST\_NAME, bt.cust\_id,bt.TOTAL\_BILL\_AMT from billing\_table\_sp bt INNER JOIN CUSTOMER\_TABLE\_SP CST

ON bt.CUST\_ID=CST.CUST\_ID

where bt.TOTAL\_BILL\_AMT=(select MAX(bt.total\_bill\_amt) from billing\_table\_sp bt)

;

--6. Which customer has purchased highest quantity of products at a time?

SELECT CST.CUST\_FIRST\_NAME,CST.CUST\_LAST\_NAME,OD.QUANTITY FROM ORDER\_TABLE\_SP OD INNER JOIN CUSTOMER\_TABLE\_SP CST

ON OD.CUST\_ID=CST.CUST\_ID WHERE CST.CUST\_ID=(

SELECT OD.CUST\_ID FROM ORDER\_TABLE\_SP OD

WHERE OD.QUANTITY IN((SELECT MAX(OD.QUANTITY) AS MAX\_QUANTITY FROM ORDER\_TABLE\_SP OD)));

--7. What is the average price of all the products sold on a particular date RANGE?

SELECT AVG(PRICE\_COL)AS AVG\_PRC\_OF\_PROD FROM (

SELECT INV.PRICE AS PRICE\_COL FROM INVENTORY\_TABLE\_SP INV WHERE INV.MAG\_ID IN

(SELECT OD.MAG\_ID FROM ORDER\_TABLE\_SP OD INNER JOIN BILLING\_TABLE\_SP BT

ON OD.ORDER\_ID=BT.ORDER\_ID

WHERE BT.ORDER\_ID IN(

(SELECT BT.ORDER\_ID FROM BILLING\_TABLE\_SP BT

WHERE BT.DATE\_OF\_PURCHASE BETWEEN '01-JAN-14' AND '30-SEP-14'))) )

;

--8. Which is the destination the shop has shipped to the most?

SELECT SL.LOCATION FROM SHOP\_LOCATION\_SP SL WHERE SL.SHOP\_LOC\_ID =

(

SELECT SHOP\_LOC\_ID FROM

(SELECT ST.SHOP\_LOC\_ID ,COUNT(ST.SHOP\_LOC\_ID) AS lOC\_SHIP\_TIMES FROM SHIPPING\_TABLE\_SP ST

GROUP BY ST.SHOP\_LOC\_ID)

WHERE LOC\_SHIP\_TIMES IN

(SELECT MAX(LOC\_SHIP\_TIMES) FROM

(

SELECT ST.SHOP\_LOC\_ID ,COUNT(ST.SHOP\_LOC\_ID) AS LOC\_SHIP\_TIMES FROM SHIPPING\_TABLE\_SP ST

GROUP BY ST.SHOP\_LOC\_ID

))

);

--9. What is the highest discount given to any customer?

SELECT CST.CUST\_EMAIL AS CUST\_WITH\_MAX\_DISC ,CST.CUST\_FIRST\_NAME,CST.CUST\_LAST\_NAME,BT.CUST\_ID, BT.DISCOUNT

FROM BILLING\_TABLE\_SP BT INNER JOIN CUSTOMER\_TABLE\_SP CST

ON BT.CUST\_ID=CST.CUST\_ID

WHERE BT.DISCOUNT=(

SELECT MAX(BT.DISCOUNT)AS MAX\_DIS\_RECV FROM BILLING\_TABLE\_SP BT);

--10. Which supplier has exported the most to the magazine store’s inventory in the month of JAN FEB and March?

SELECT SP.SUPPLIER\_NAME ,INV.SUPPLIER\_ID ,INV.TITLE FROM SUPPLIERS\_TABLE\_SP SP INNER JOIN INVENTORY\_TABLE\_SP INV

ON SP.SUPPLIER\_ID=INV.SUPPLIER\_ID

WHERE INV.SUPPLIER\_ID IN(

SELECT INV.SUPPLIER\_ID FROM INVENTORY\_TABLE\_SP INV

WHERE MONTH BETWEEN '01-JAN-17'AND '31-MAR-17'

);

--11. GROUP BY CLAUSE WITH HAVING

SELECT BT.ORDER\_ID ,SUM(BT.TOTAL\_BILL\_AMT)AS SUM\_FOR\_ORDER\_ID

FROM BILLING\_TABLE\_SP BT INNER JOIN CUSTOMER\_TABLE\_SP CST

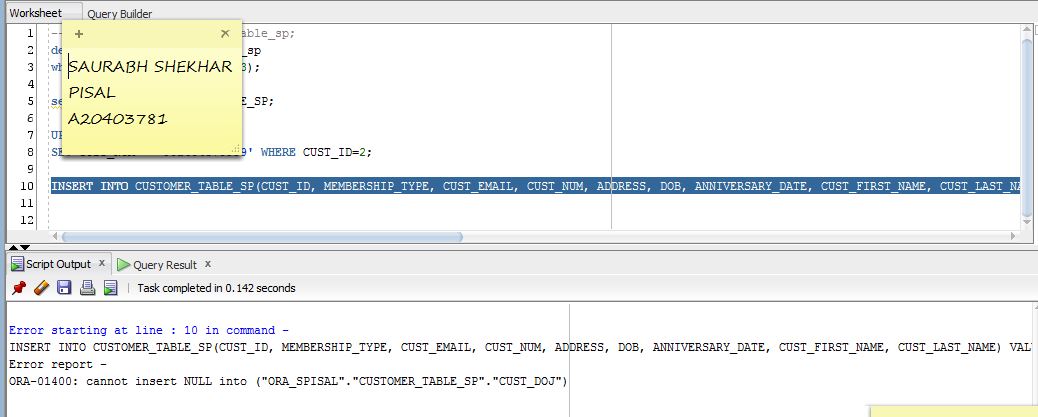
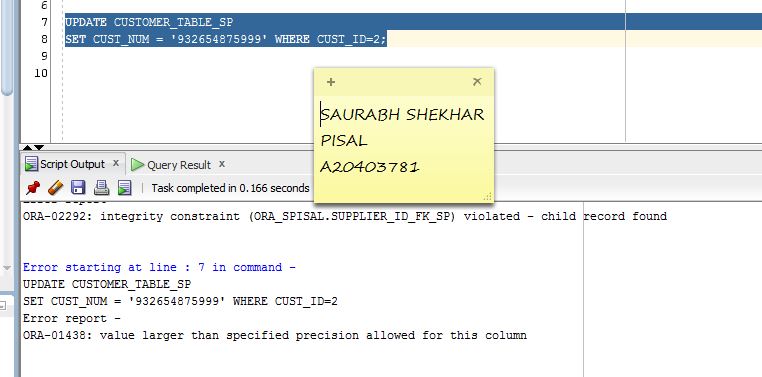
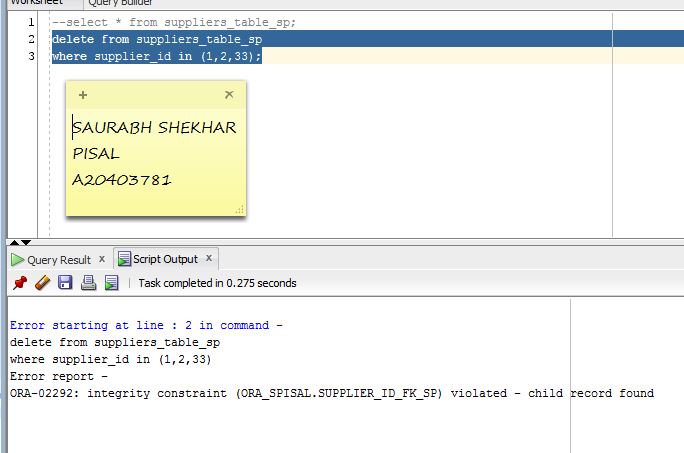
ON BT.CUST\_ID=CST.CUST\_ID

GROUP BY ORDER\_ID

HAVING SUM(TOTAL\_BILL\_AMT) >100;

### DATABASE INTEGRITY VALIDATION AND ANOMOLIES:

#### SCREENSHOTS:



#### CODE:

-- 1. INTEGRITY ISSUE

--select \* from suppliers\_table\_sp;

delete from suppliers\_table\_sp

where supplier\_id in (1,2,33);

--2. UPDATE

UPDATE CUSTOMER\_TABLE\_SP

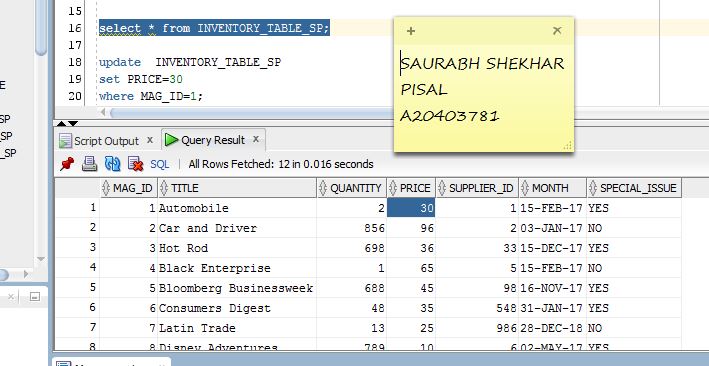
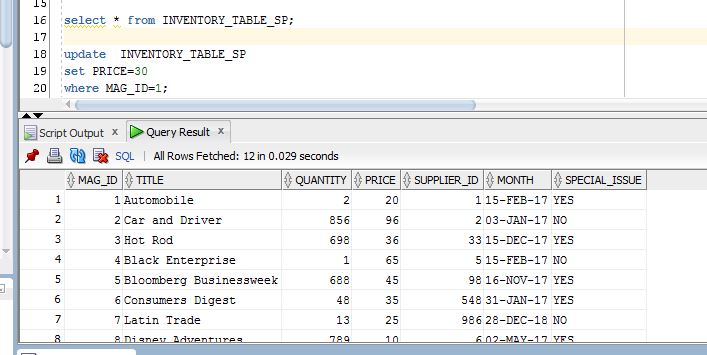
SET CUST\_NUM = '932654875999' WHERE CUST\_ID=2;

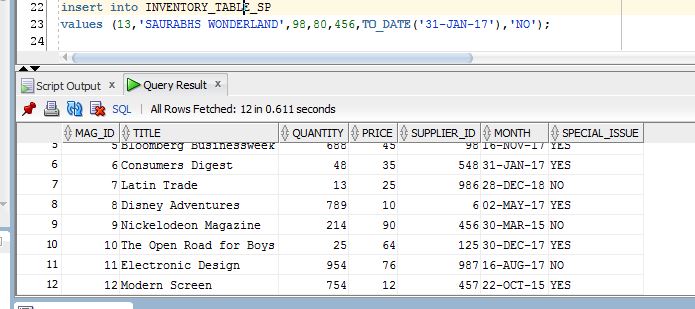
--3. INSERT

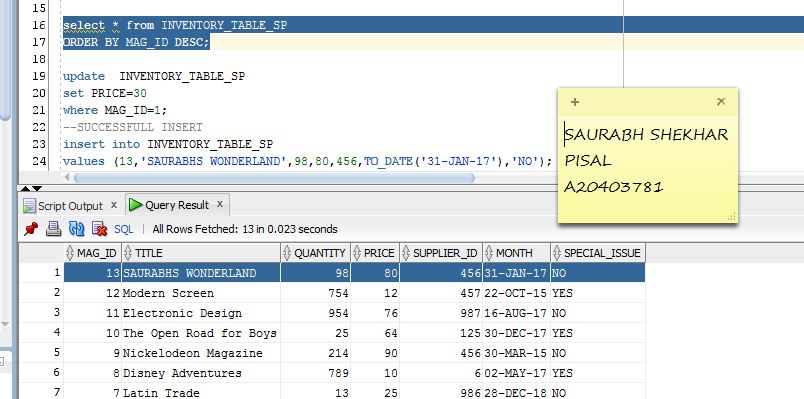
INSERT INTO CUSTOMER\_TABLE\_SP(CUST\_ID, MEMBERSHIP\_TYPE, CUST\_EMAIL, CUST\_NUM, ADDRESS, DOB, ANNIVERSARY\_DATE, CUST\_FIRST\_NAME, CUST\_LAST\_NAME) VALUES ('15', 'GOLD', 'GOLD@ABC', '1010101010', 'ABC', TO\_DATE('2002-05-01 00:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO\_DATE('2014-12-25 00:00:00', 'YYYY-MM-DD HH24:MI:SS'), 'ABC', 'ABC');

### SUCCESSFUL VALIDATION:

#### SCREENSHOTS:



BEFORE INSERTION

AFTER INSERTION

#### CODE:

--successful testing of database

--1. update

select \* from INVENTORY\_TABLE\_SP

ORDER BY MAG\_ID DESC;

update INVENTORY\_TABLE\_SP

set PRICE=30

where MAG\_ID=1;

--2. SUCCESSFULL INSERT

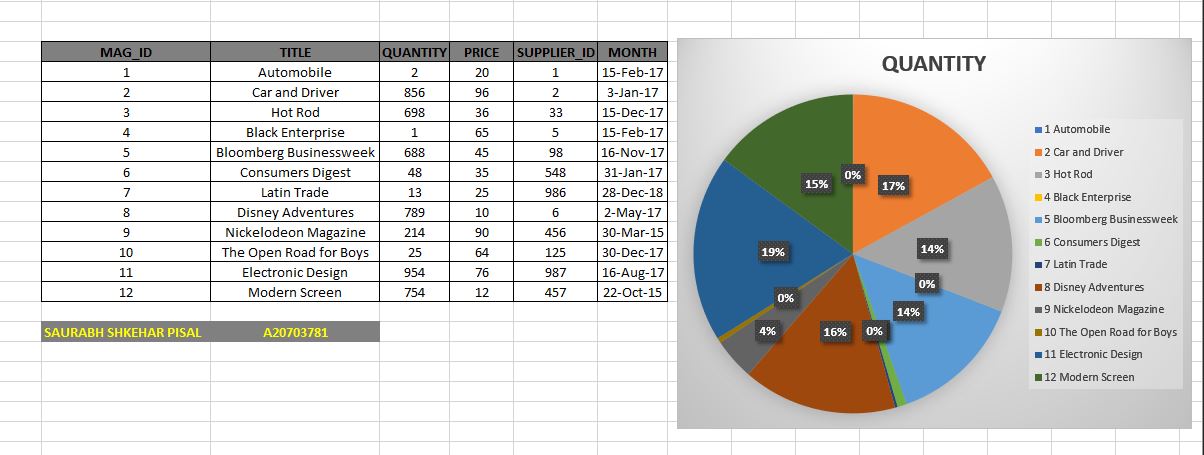
insert into INVENTORY\_TABLE\_SP

values (13,'SAURABHS WONDERLAND',98,80,456,TO\_DATE('31-JAN-17'),'NO');

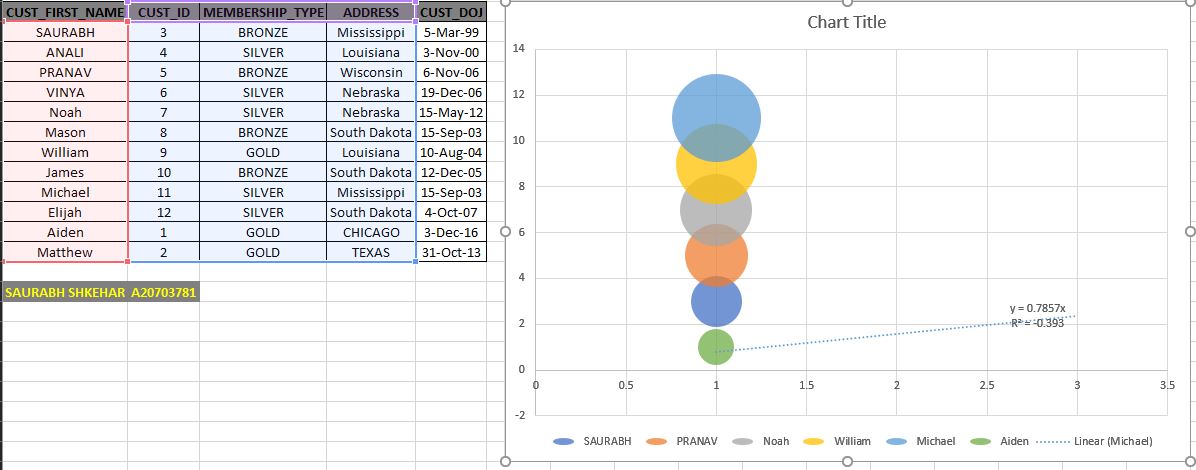
# PHASE 9: DATA ANALYTICS PERFORMED

Data analytics has been performed on 2 tables.

1. INVENTORY

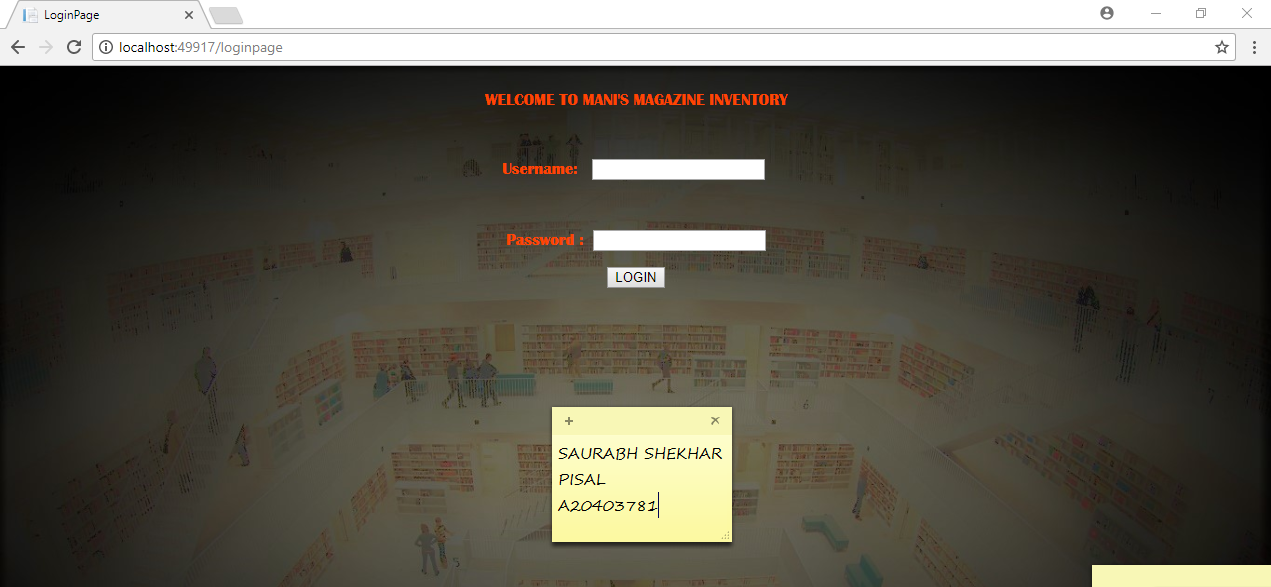


1. CUSTOMER TABE

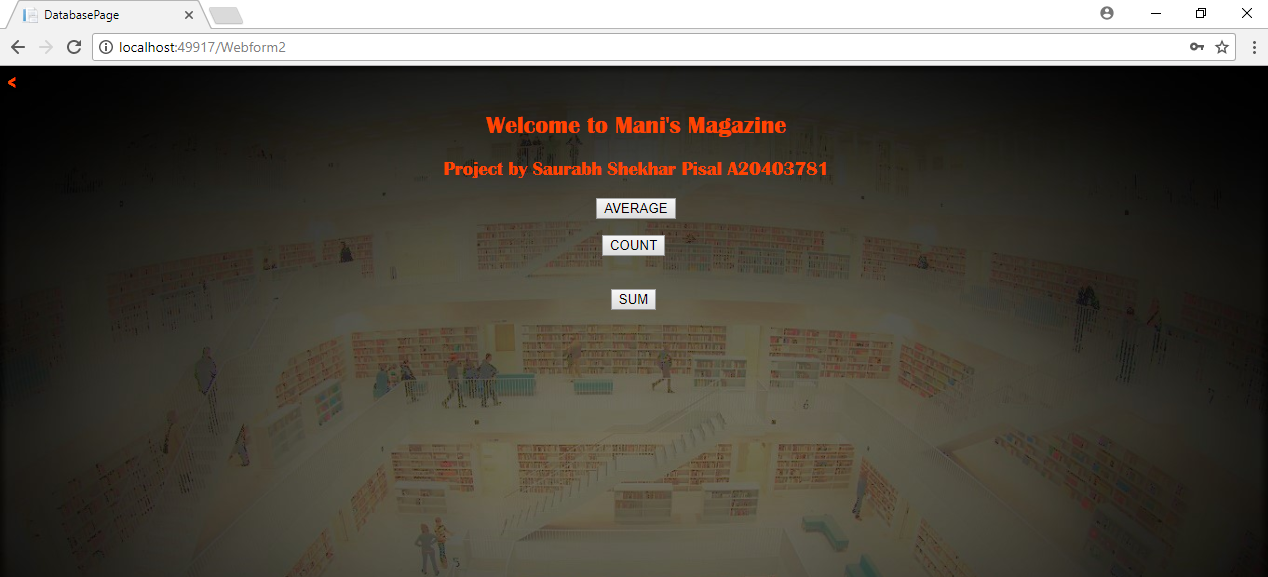


# Web Presence for Your Application Screenshots

Username: Saurabh Password: Saurabh@123



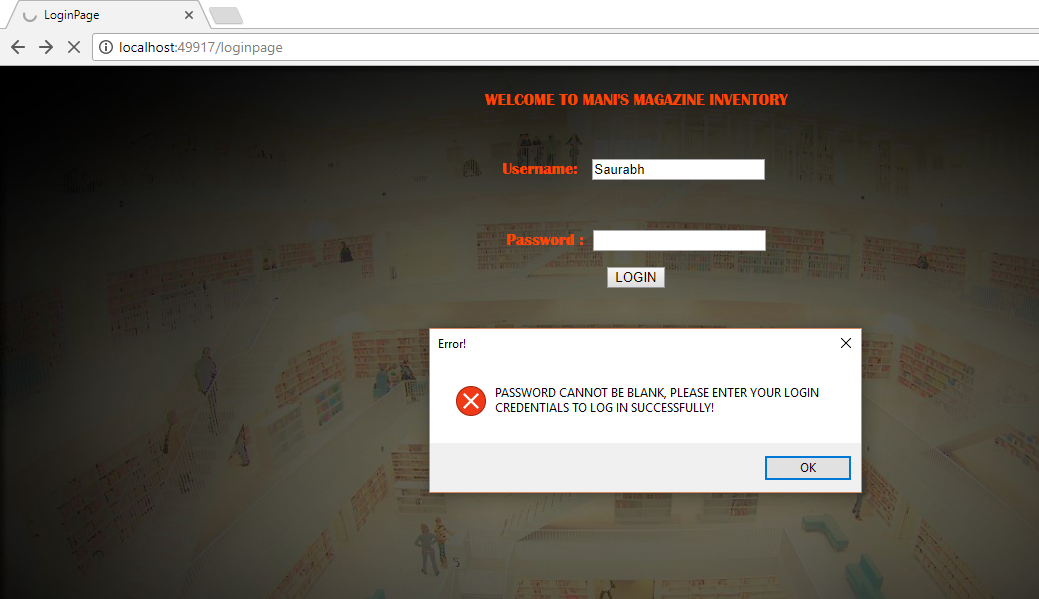
2nd form



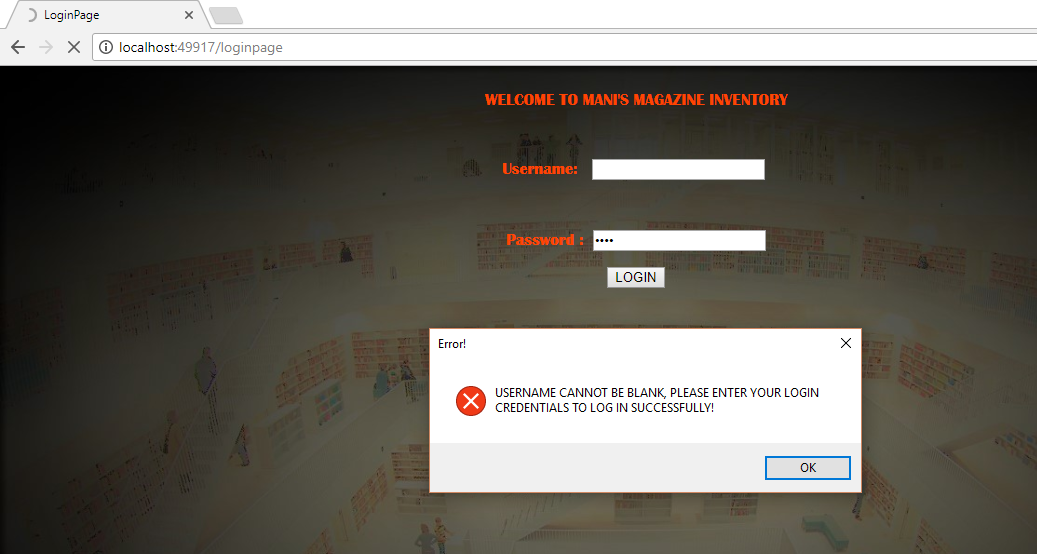
### Output Calculation:



### Error Trapping







### Code:

Login page code

<%@ Page Language="VB" %>

<!DOCTYPE html>

<script runat="server">

Protected Sub TextBox1\_TextChanged(spSNDR As Object, spEvnt As EventArgs)

End Sub

Protected Sub Button1\_Click(spSNDR As Object, spEvnt As EventArgs)

End Sub

Protected Sub Button2\_Click(spSNDR As Object, spEvnt As EventArgs)

If USERNAME.Text = "Saurabh" And PASSWORD.Text = "Saurabh@123" Then

Response.Redirect("Webform2.aspx")

Else

If USERNAME.Text = "" And PASSWORD.Text = "" Then

MsgBox("PLEASE ENTER YOUR LOGIN CREDENTIALS TO LOG IN SUCCESSFULLY", MsgBoxStyle.Critical, "Error!")

Else

If USERNAME.Text = "" Then

MsgBox("USERNAME CANNOT BE BLANK, PLEASE ENTER YOUR LOGIN CREDENTIALS TO LOG IN SUCCESSFULLY!", MsgBoxStyle.Critical, "Error!")

Else

If PASSWORD.Text = "" Then

MsgBox("PASSWORD CANNOT BE BLANK, PLEASE ENTER YOUR LOGIN CREDENTIALS TO LOG IN SUCCESSFULLY!", MsgBoxStyle.Critical, "Error!")

Else

MsgBox("INVALID CREDENTIALS, PLEASE CHECK AND LOGIN AGAIN!", MsgBoxStyle.Critical, "Error!")

End If

End If

End If

End If

End Sub

</script>

<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

<title>LoginPage</title>

</head>

<center>

<body style = "font-family:Britannic;background-image: url(Image2.jpg); background-size: cover;color:orangered">

<form id="form1" runat="server">

<div>

<br />

WELCOME TO MANI&#39;S MAGAZINE INVENTORY<br />

<br />

<br />

<br />

Username:<asp:TextBox ID="USERNAME" runat="server" OnTextChanged="TextBox1\_TextChanged" style="margin-left: 15px"></asp:TextBox>

<br />

<br />

<br />

</div>

<p>

Password :&nbsp;

<asp:TextBox ID="PASSWORD" runat="server" TextMode="Password"></asp:TextBox>

</p>

<p>

</p>

<p>

</p>

</p>

<asp:Button ID="Button2" runat="server" OnClick="Button2\_Click" Text="LOGIN" />

</form>

</center>

</body>

</html>

Webform2 code:

<<%@ Page Language = "VB" %>

<%@ Import Namespace = "System.Data.OleDb" %>

<%@ Import Namespace = "System.IO" %>

<%@ Import Namespace = "System.Drawing" %>

<!DOCTYPE html>

<html xmlns = "http://www.w3.org/1999/xhtml">

<head id = "Head1" runat = "server">

<title>DatabasePage</title>

<script runat = "server">

Public Class PictureBox

Property Image As Drawing.Bitmap

End Class

Sub average(spexp As Object, evnt\_sp As EventArgs)

Try

'Connect to the Database

Dim spAccess As New OleDbConnection(

"Provider = Microsoft.Jet.OLEDB.4.0;" &

"Data Source = C:\Users\Saurabh\OneDrive - hawk.iit.edu\sEM 1\Adv topics in Datamanagement\Final Projecct\FinalProject.mdb")

spAccess.Open()

'Construct the SELECT statement

Dim spresltst As String

'Create the SQL Select Statement

spresltst = "SELECT AVG(TOTAL\_BILL\_AMT) FROM BILLING\_TABLE\_SP"

'Create the OleDbCommand object

Dim spSlct As New OleDbCommand(spresltst, spAccess)

Dim spReader As OleDbDataReader, sbResults As New StringBuilder()

spReader = spSlct.ExecuteReader()

sbResults.Append("<table>")

While spReader.Read()

sbResults.Append("<tr><td>")

sbResults.Append("AVERAGE OF TOTAL AMOUNT OF ALL ORDERS IS : " + spReader.GetValue(0).ToString)

sbResults.Append("</tr></td>")

sbResults.Append("</tr></td>")

End While

sbResults.Append("</table>")

click.Text = sbResults.ToString()

spAccess.Close()

spAccess = Nothing

Catch ex As Exception

Response.Write(ex.Message)

Response.Write("<<<<<<<<<< CONNECTION HAS FAILED >>>>>>>>>>")

End Try

End Sub

Sub count(spexp As Object, evnt\_sp As EventArgs)

Try

'Connect to the Database

Dim spAccess As New OleDbConnection(

"Provider = Microsoft.Jet.OLEDB.4.0;" &

"Data Source = C:\Users\Saurabh\OneDrive - hawk.iit.edu\sEM 1\Adv topics in Datamanagement\Final Projecct\FinalProject.mdb")

spAccess.Open()

'Construct the SELECT statement

Dim sSel As String

'Create the SQL Select Statement

sSel = "SELECT Count(\*) FROM BILLING\_TABLE\_SP WHERE TOTAL\_BILL\_AMT >= 500"

'Create the OleDbCommand object

Dim spSlct As New OleDbCommand(sSel, spAccess)

Dim spReader As OleDbDataReader, sbResults As New StringBuilder()

spReader = spSlct.ExecuteReader()

sbResults.Append("<table>")

While spReader.Read()

sbResults.Append("<tr><td>")

sbResults.Append("TOTAL NUMBER OF ORDERS PLACED BY CUSTOMERS WHOS AMOUNT GOES ABOVE $500 ARE : " + spReader.GetValue(0).ToString

)

sbResults.Append("</tr></td>")

End While

sbResults.Append("</table>")

click1.Text = sbResults.ToString()

spAccess.Close()

spAccess = Nothing

Catch ex As Exception

Response.Write(ex.Message)

Response.Write("<<<<< CONNECTION HAS FAILED >>>>>")

End Try

End Sub

Sub sum(spexp As Object, evnt\_sp As EventArgs)

Try

'Connect to the Database

Dim spAccess As New OleDbConnection(

"Provider = Microsoft.Jet.OLEDB.4.0;" &

"Data Source = C:\Users\Saurabh\OneDrive - hawk.iit.edu\sEM 1\Adv topics in Datamanagement\Final Projecct\FinalProject.mdb")

spAccess.Open()

'Construct the SELECT statement

Dim vSel As String

'Create the SQL Select Statement

vSel = "SELECT SUM(TOTAL\_BILL\_AMT) FROM BILLING\_TABLE\_SP WHERE BILL\_NO BETWEEN 1 AND 2"

'Create the OleDbCommand object

Dim spSlct As New OleDbCommand(vSel, spAccess)

Dim spReader As OleDbDataReader, sbResults As New StringBuilder()

spReader = spSlct.ExecuteReader()

sbResults.Append("<table>")

While spReader.Read()

sbResults.Append("<tr><td>")

sbResults.Append("TOTAL OF TOTAL BILL IN BETWEEN THE 2 FINANCIAL YEARS 01-JAN-2014 AND 31-DEC-2015 : " + spReader.GetValue(0).ToString

)

sbResults.Append("</tr></td>")

sbResults.Append("</tr></td>")

End While

sbResults.Append("</table>")

click2.Text = sbResults.ToString()

spAccess.Close()

spAccess = Nothing

Catch ex As Exception

Response.Write(ex.Message)

Response.Write("<< CONNECTION HAS FAILED >>")

End Try

End Sub

</script>

<center>

</head>

<body style = "font-family:Britannic;background-image: url(Image2.jpg); background-size: cover;color:orangered">

<center>

<h2>

Welcome to Mani's Magazine

</h2>

<h3>

Project by Saurabh Shekhar Pisal A20403781

</h3>

</center>

<form runat = "server" id = "form1">

<asp:Button Text = "AVERAGE" OnClick = "average"

runat = "server" ID = "Button1" />

<p>

<asp:Label id = "click" runat = "server" />

</p>

<asp:Button Text = "COUNT" OnClick = "count"

runat = "server" ID = "Button2" />

<br />

<p>

<asp:Label id = "click1" runat = "server" />

</p>

<br />

<asp:Button Text = "SUM" OnClick = "sum"

runat = "server" ID = "Button3" />

<br />

<p>

<asp:Label id = "click2" runat = "server" />

</p>

<br />

</center>

</form>

<div></div>

</body>

</center>

</html>

# PHASE 10: Systems Analysis and Viewpoints

## Business Intelligence

Business intelligence will help the company regularly roll up the information required from the past transactions a customer has made in the store. It will help the company direct get a view of what and how much the company should order for more books based on the purchased, outgoing the store has made. Business intelligence will help the company take such decisions on weekly basis.

## Data Gravity

There will be a huge data of the inventory and many other transactions. This when measured on a larger scale other companies would like to use this data for their third-party application and improvements. Thus, the gravity the magazine store data will have will help them attract more users for its implication.

## Data Management

Data management helps decision makers with management of their data. Raw data is of no use unless and until it is in smaller amounts. Data management will help gain from the processed raw data and help in decision making. DMBS i.e. database management systems will help eliminate the issues of huge data location and tracking. Basic principle of data management is holding the data in a collective fashion in a usable way.

Data management will help Mani’s magazine with standardizing the data format to global, provide the validations of data and even insure its consistency in aspect of integrity. It will help the company to protect process and allow even integration with new technology’s. It will ensure proper maintenance and security of the data.

## Data Mining

Data mining is digging into massive data structures, both structed and unstructured. It helps the company in comparing the market prices provided by other competitive stores and help itself in its pricing market. It will help the company even narrow down its customers and products favourite to them and can make such arrangements like offers and other analytical decision that will help grow the business. It will help the company with its research for profit orientation capabilities.

## Data Science

Data science is a set of data analysts team that help in predicting what would be the outcomes if the data is flowing on the same rate and other details that might help in decision management. Data science will help find a patter in the flow of incoming and outgoing data and help come to a conclusion which might help the company i.e. Mani’s magazine in preparing themselves for the situations both in their favor and the other way around.

## Predictive Analytics

Predictive analysis is a tool of looking forward and having an insight. As a part of analytics, it helps tackle unpredictive events. It considers data mining, statistics, ML and AI to scan through the data currently flowing and identify the risks and opportunities associated with it soon. Mani’s magazine can help this tool in interpreting data for their decision support.