DBMS PROJECT
REAL ESTATE AGENCY DATABASE

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PROBLEM STATEMENT:

The aim of this project is to make a DataBase for a Real Estate Agency site to manage the users in their website and maintaining all the Properties and Registrations made through their site which is normalised to maximum extent and reducing data redundancy.

ENTITIES AND THEIR ATTRIBUTES:

USER:

We have three types of users (Buyers, Sellers and Agents). User includes UserId, Name, PhoneNo ,Address and Aadhar.

BUYER:

Buyer includes BuyerId, PriceRange and NeededPropertyLocations along with User attributes.

SELLER:

Seller includes SellerId along with User attributes.

AGENT:

Agent includes AgentId, DOJ, Experience, Photo, Salary along with User attributes.

PROPERTY:

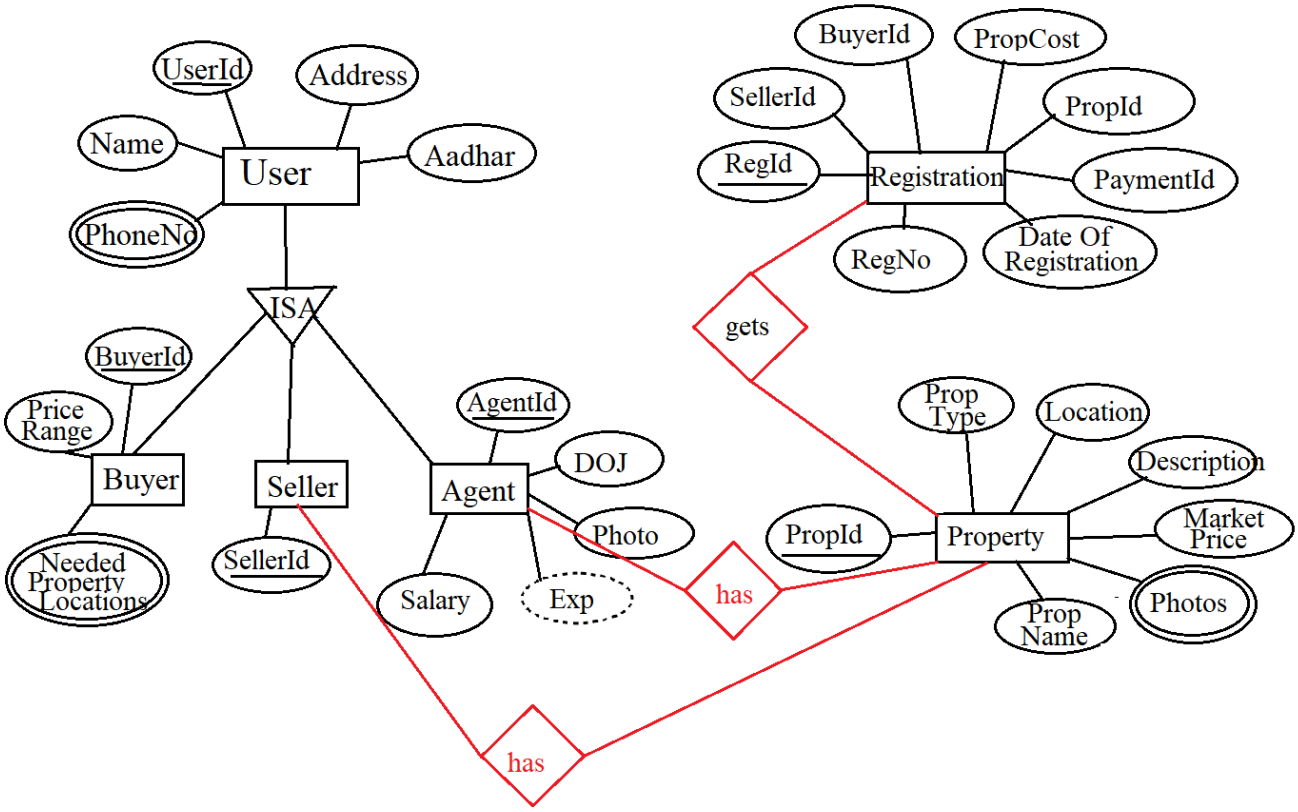
Property includes PropId, PropName ,MarketPrice ,PropType, Location, Photos,

Description.

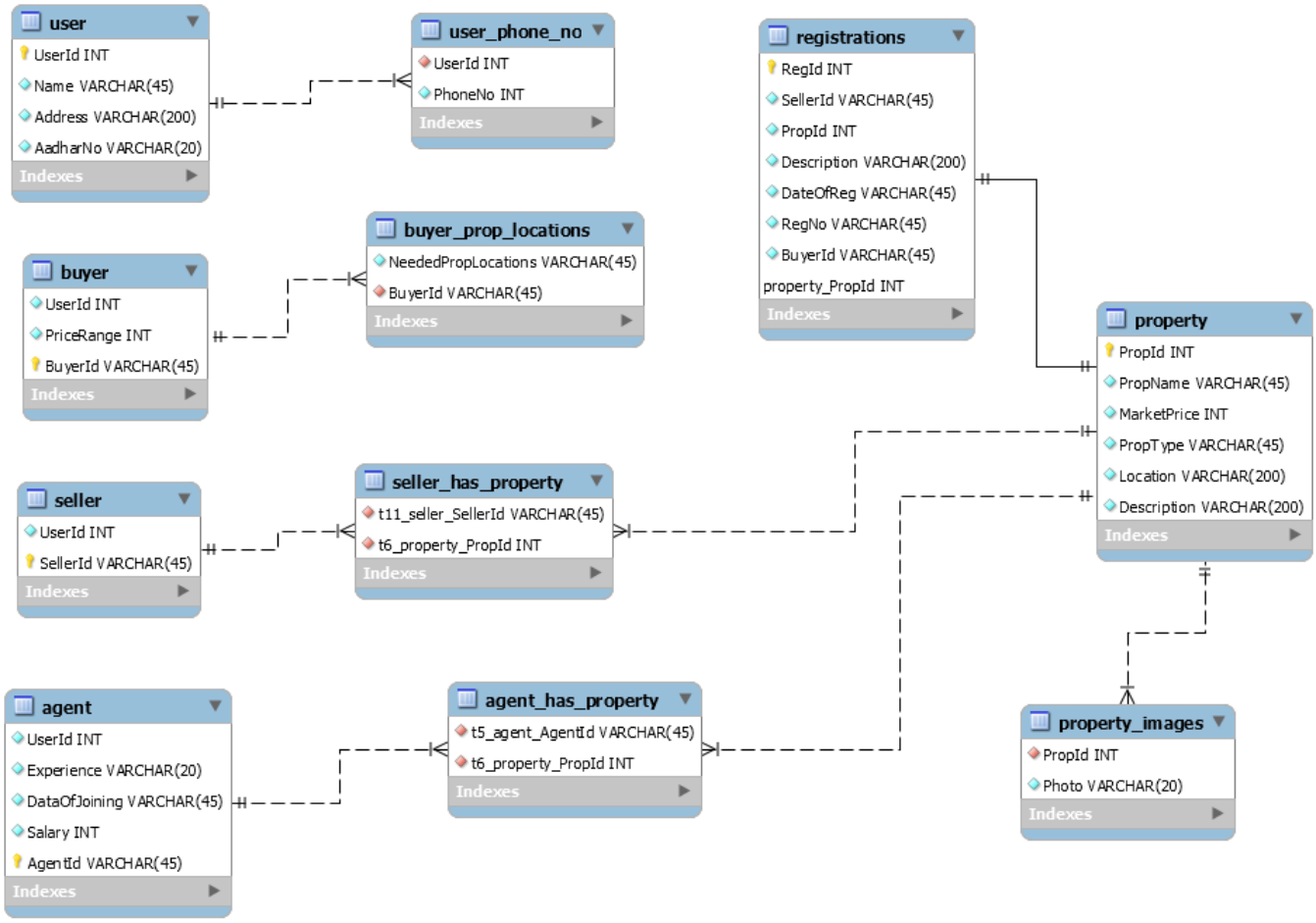
REGISTRATIONS:

Registrations include RegId ,PropId, BuyerId, SellerId, PropCost, PaymentId, DateOfRegistration, RegNo.

ER DIAGRAM:



RELATIONAL SCHEMA:



FUNCTIONAL DEPENDENCIES AND TABLES AFTER NORMALIZATION:

1.

USER (UserId,Name,Address,AadharNo)

UserId -> Name,Address, AadharNo

AadharNo->UserId,Name,Address

PK : UserId

NORMAL FORM : BCNF

2.

USER_PHONE_NO (UserId , PhoneNo)

UserId -> PhoneNo

NORMAL FORM : BCNF

3.

BUYER(UserId,PriceRange,BuyerId)

UserId -> PriceRange ,BuyerId

BuyerId -> PriceRange,UserId

NORMAL FORM : BCNF

4.

BUYER_PROP_LOCATIONS(BuyerId ,NeededPropLocations)

BuyerId -> NeededPropLocations

NORMAL FORM : BCNF

5.

SELLER(UserId ,SellerId)

UserId -> SellerId

SellerId -> UserId

NORMAL FORM : BCNF

6.

Agent(UserId,AgentId,Experience,DOJ,Salary)

UserId -> Experience,DOJ,Salary,AgentId

AgentId -> Experience,DOJ,Salary,UserId

PK : AgentId

NORMAL FORM : BCNF

7.

PROPERTY(PropId,PropName,MarketPrice,PropType,Location,Description)

PropId -> PropName,MarketPrice,PropType,Location,Description

PK : PropId

NORMAL FORM : BCNF

8.

SELLER_HAS_PROPERTY(PropId, SellerId)

SellerId -> PropId

NORMAL FORM : BCNF

9.

PROPERTY_IMAGES(PropId, Photo)

PropId ->Photo

NORMAL FORM : BCNF

10.

AGENT_HAS_PROPERTY(PropId, AgentId)

AgentId -> PropId

NORMAL FORM : BCNF

11.

REGISTRATIONS(RegId,BuyerId,SellerId,PropId,RegNo,DOR,Description)

PropId -> RegId,BuyerId,SellerId,RegNo,DOR,Description

RegId -> BuyerId,SellerId,PropId,RegNo,DOR,Description

RegNo -> RegId,BuyerId,SellerId,PropId,DOR,Description

PK : RegId

NORMAL FORM : BCNF

IMPLEMENTATION IN SQL:

```
CREATE TABLE `user` (
  `UserId` int NOT NULL,
  `Name` varchar(45) NOT NULL,
  `Address` varchar(200) NOT NULL,
  `AadharNo` varchar(20) NOT NULL,
  PRIMARY KEY (`UserId`)
)

CREATE TABLE `agent` (
  `UserId` int NOT NULL,
  `Experience` varchar(20) NOT NULL,
  `DataOfJoining` varchar(45) NOT NULL,
  `Salary` int NOT NULL,
  `AgentId` varchar(45) NOT NULL,
  PRIMARY KEY (`AgentId`)
)


CREATE TABLE `agent_has_property` (
  `t5_agent_AgentId` varchar(45) NOT NULL,
  `t6_property_PropId` int NOT NULL,
  KEY `fk_t5_agent_has_t6_property_t6_property1_idx` (`t6_property_PropId`),
  KEY `fk_t5_agent_has_t6_property_t5_agent1_idx` (`t5_agent_AgentId`),
  CONSTRAINT `fk_t5_agent_has_t6_property_t5_agent1` FOREIGN KEY
(`t5_agent_AgentId`) REFERENCES `agent` (`AgentId`),
  CONSTRAINT `fk_t5_agent_has_t6_property_t6_property1` FOREIGN KEY
(`t6_property_PropId`) REFERENCES `property` (`PropId`)
)


CREATE TABLE `buyer` (
  `UserId` int NOT NULL,
  `PriceRange` int NOT NULL,
  `BuyerId` varchar(45) NOT NULL,
  PRIMARY KEY (`BuyerId`),
  KEY `UserId_idx` (`UserId`)
```

```
)
CREATE TABLE `buyer_prop_locations` (
  `NeededPropLocations` varchar(45) NOT NULL,
  `BuyerId` varchar(45) NOT NULL,
  KEY `BuyerId_idx` (`BuyerId`),
  CONSTRAINT `BuyerId` FOREIGN KEY (`BuyerId`) REFERENCES `buyer`
(`BuyerId`)
)

CREATE TABLE `property` (
  `PropId` int NOT NULL,
  `PropName` varchar(45) NOT NULL,
  `MarketPrice` int NOT NULL,
  `PropType` varchar(45) NOT NULL,
  `Location` varchar(200) NOT NULL,
  `Description` varchar(200) NOT NULL,
  PRIMARY KEY (`PropId`)
)

CREATE TABLE `property_images` (
  `PropId` int NOT NULL,
  `Photo` varchar(20) NOT NULL,
  KEY `PropId_idx` (`PropId`),
  CONSTRAINT `PropId` FOREIGN KEY (`PropId`) REFERENCES `property`
(`PropId`) ON DELETE CASCADE ON UPDATE CASCADE
)

CREATE TABLE `registrations` (
  `RegId` int NOT NULL,
  `SellerId` varchar(45) NOT NULL,
  `PropId` int NOT NULL,
  `Description` varchar(200) NOT NULL,
  `DateOfReg` varchar(45) NOT NULL,
  `RegNo` varchar(45) NOT NULL,
  `BuyerId` varchar(45) NOT NULL,
```

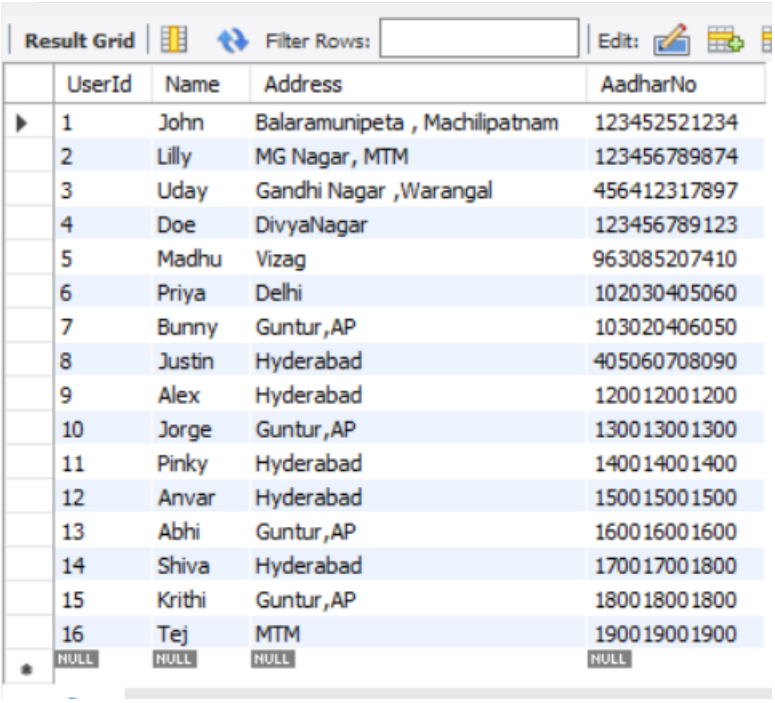
```
  PRIMARY KEY (`RegId`)
)
CREATE TABLE `seller` (
  `UserId` int NOT NULL,
  `SellerId` varchar(45) NOT NULL,
  PRIMARY KEY (`SellerId`)
)


CREATE TABLE `seller_has_property` (
  `t11_seller_SellerId` varchar(45) NOT NULL,
  `t6_property_PropId` int NOT NULL,
  KEY `fk_t11_seller_has_t6_property_t6_property1_idx` (`t6_property_PropId`),
  KEY `fk_t11_seller_has_t6_property_t11_seller1_idx` (`t11_seller_SellerId`),
  CONSTRAINT `fk_t11_seller_has_t6_property_t11_seller1` FOREIGN KEY
(`t11_seller_SellerId`) REFERENCES `seller` (`SellerId`),
  CONSTRAINT `fk_t11_seller_has_t6_property_t6_property1` FOREIGN KEY
(`t6_property_PropId`) REFERENCES `property` (`PropId`)
)


CREATE TABLE `user_phone_no` (
  `UserId` int NOT NULL,
  `PhoneNo` int NOT NULL,
  KEY `UserId_idx` (`UserId`),
  CONSTRAINT `UserId` FOREIGN KEY (`UserId`) REFERENCES `user` (`UserId`) ON
DELETE CASCADE ON UPDATE CASCADE
)
```

DATA IN TABLES :

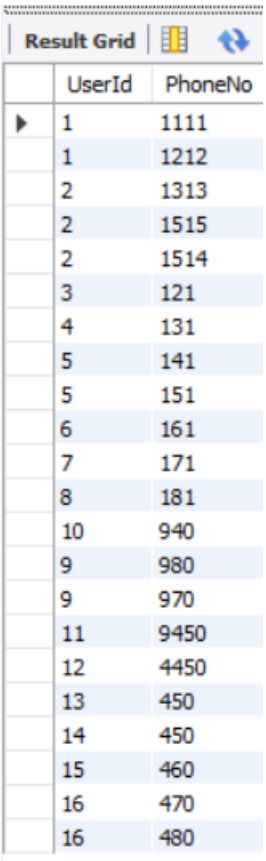
USER:



Result Grid | Filter Rows: | Edit:

UserId	Name	Address	AadharNo
1	John	Balaramunipeta , Machilipatnam	123452521234
2	Lilly	MG Nagar, MTM	123456789874
3	Uday	Gandhi Nagar ,Warangal	456412317897
4	Doe	DivyaNagar	123456789123
5	Madhu	Vizag	963085207410
6	Priya	Delhi	102030405060
7	Bunny	Guntur,AP	103020406050
8	Justin	Hyderabad	405060708090
9	Alex	Hyderabad	120012001200
10	Jorge	Guntur,AP	130013001300
11	Pinky	Hyderabad	140014001400
12	Anvar	Hyderabad	150015001500
13	Abhi	Guntur,AP	160016001600
14	Shiva	Hyderabad	170017001800
15	Krithi	Guntur,AP	180018001800
16	Tej	MTM	190019001900
NULL	NULL	NULL	NULL

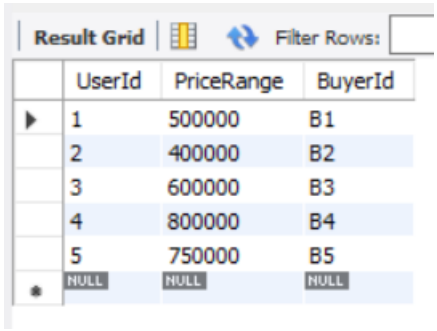
USER_PHONE_NO:



Result Grid

UserId	PhoneNo
1	1111
1	1212
2	1313
2	1515
2	1514
3	121
4	131
5	141
5	151
6	161
7	171
8	181
10	940
9	980
9	970
11	9450
12	4450
13	450
14	450
15	460
16	470
16	480

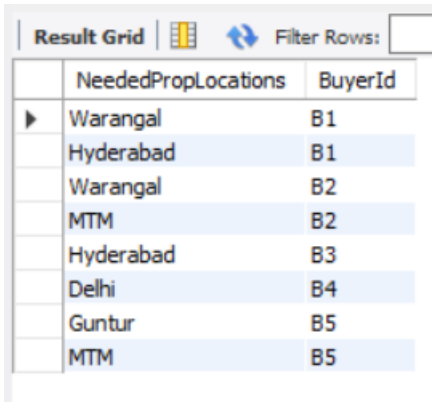
BUYER:



Result Grid | Filter Rows:

UserId	PriceRange	BuyerId
1	500000	B1
2	400000	B2
3	600000	B3
4	800000	B4
5	750000	B5
NULL	NULL	NULL

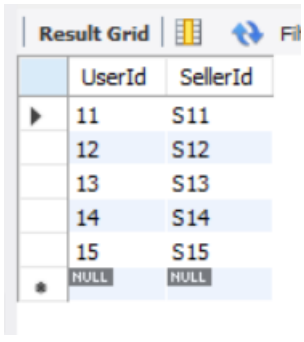
BUYER_PROP_LOCATIONS:



Result Grid | Filter Rows:

NeededPropLocations	BuyerId
Warangal	B1
Hyderabad	B1
Warangal	B2
MTM	B2
Hyderabad	B3
Delhi	B4
Guntur	B5
MTM	B5

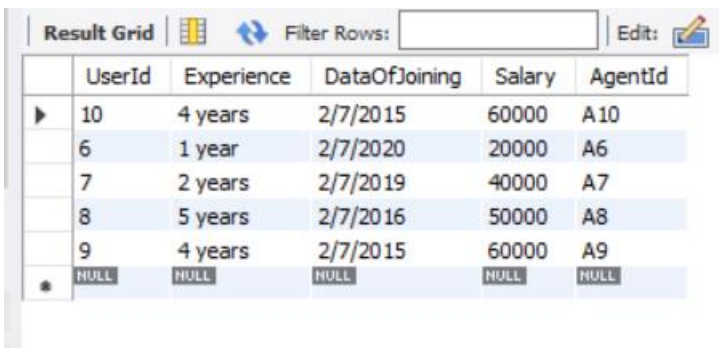
SELLER:



Result Grid | Fi

UserId	SellerId
11	S11
12	S12
13	S13
14	S14
15	S15
NULL	NULL

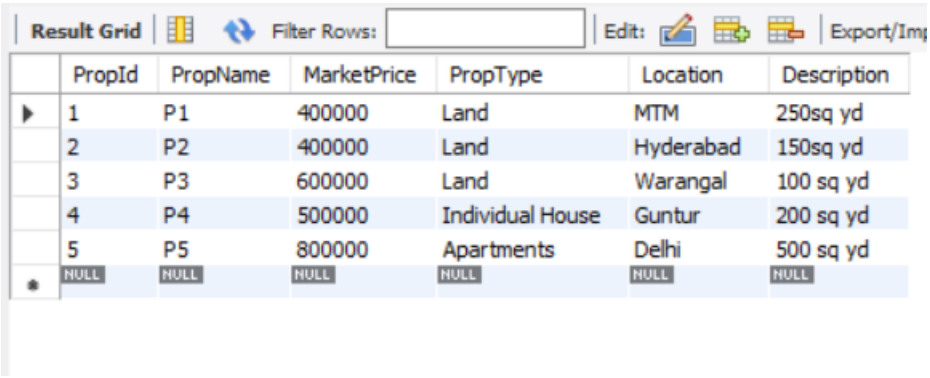
AGENT:



Result Grid | Filter Rows: | Edit:

UserId	Experience	DataOfJoining	Salary	AgentId
10	4 years	2/7/2015	60000	A10
6	1 year	2/7/2020	20000	A6
7	2 years	2/7/2019	40000	A7
8	5 years	2/7/2016	50000	A8
9	4 years	2/7/2015	60000	A9
NULL	NULL	NULL	NULL	NULL

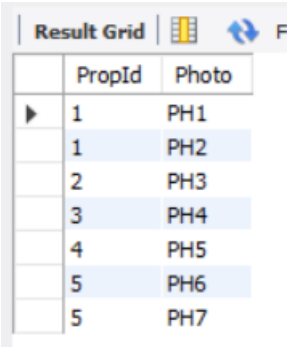
PROPERTY:



Result Grid | Filter Rows: | Edit: | Export/Im

PropId	PropName	MarketPrice	PropType	Location	Description
1	P1	400000	Land	MTM	250sq yd
2	P2	400000	Land	Hyderabad	150sq yd
3	P3	600000	Land	Warangal	100 sq yd
4	P4	500000	Individual House	Guntur	200 sq yd
5	P5	800000	Apartments	Delhi	500 sq yd
NULL	NULL	NULL	NULL	NULL	NULL

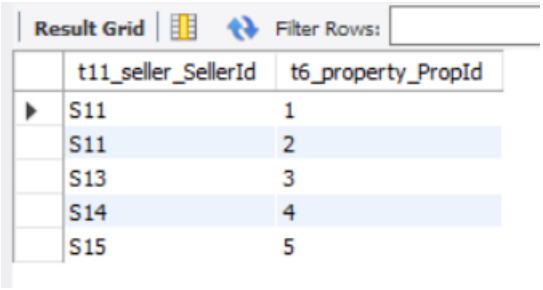
PROPERTY_IMAGES:



Result Grid | F

PropId	Photo
1	PH1
1	PH2
2	PH3
3	PH4
4	PH5
5	PH6
5	PH7

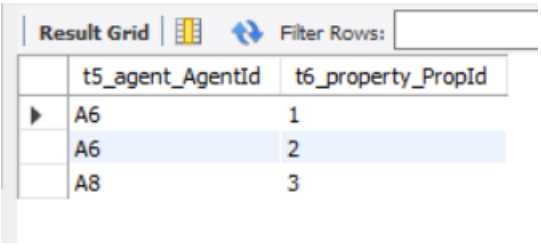
SELLER_HAS_PROPERTY:



Result Grid | Filter Rows:

t11_seller_SellerId	t6_property_PropId
S11	1
S11	2
S13	3
S14	4
S15	5

AGENT_HAS_PROPERTY:



Result Grid | Filter Rows:

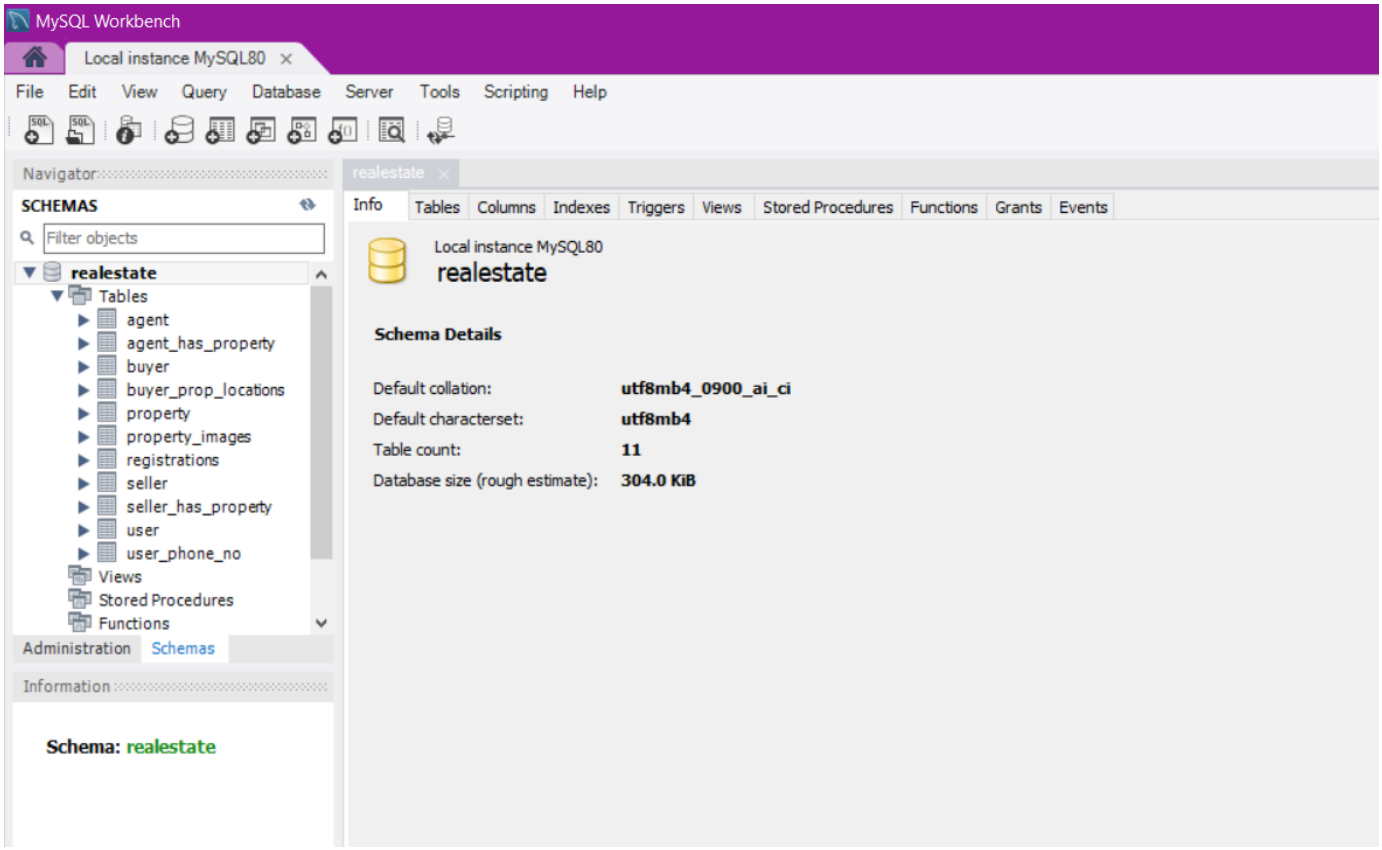
t5_agent_AgentId	t6_property_PropId
A6	1
A6	2
A8	3

REGISTRATIONS:

Result Grid | Filter Rows: | Edit: | Export/Im

RegId	SellerId	PropId	Description	DateOfReg	RegNo	BuyerId
1	S11	1	Land,cost-100000	1/7/2020	R1	B1
2	S12	2	cost-500000	4/5/2021	R2	B2
NULL	NULL	NULL	NULL	NULL	NULL	NULL

DATABASE OVERVIEW:



TABLES IN DATABASE :