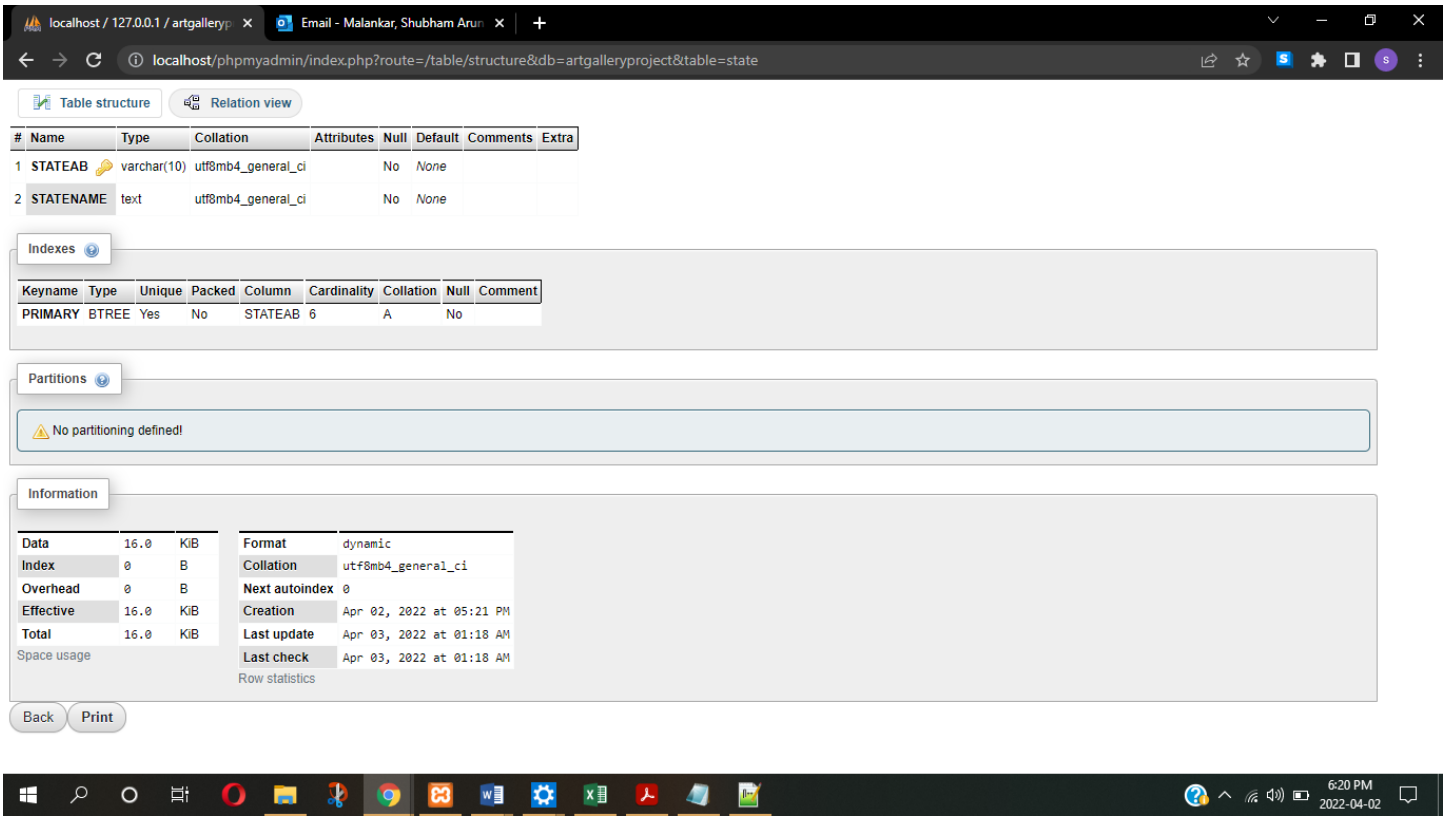
Shubham M

PROJECT PHASE 2

PART 1 : - Create statement queries

1. ‘state’ table –

```
CREATE TABLE `artgalleryproject`.`state` (
`STATEAB` VARCHAR(10) NOT NULL ,
`STATENAME` TEXT NOT NULL ,
PRIMARY KEY (`STATEAB `)) ENGINE = InnoDB;
```



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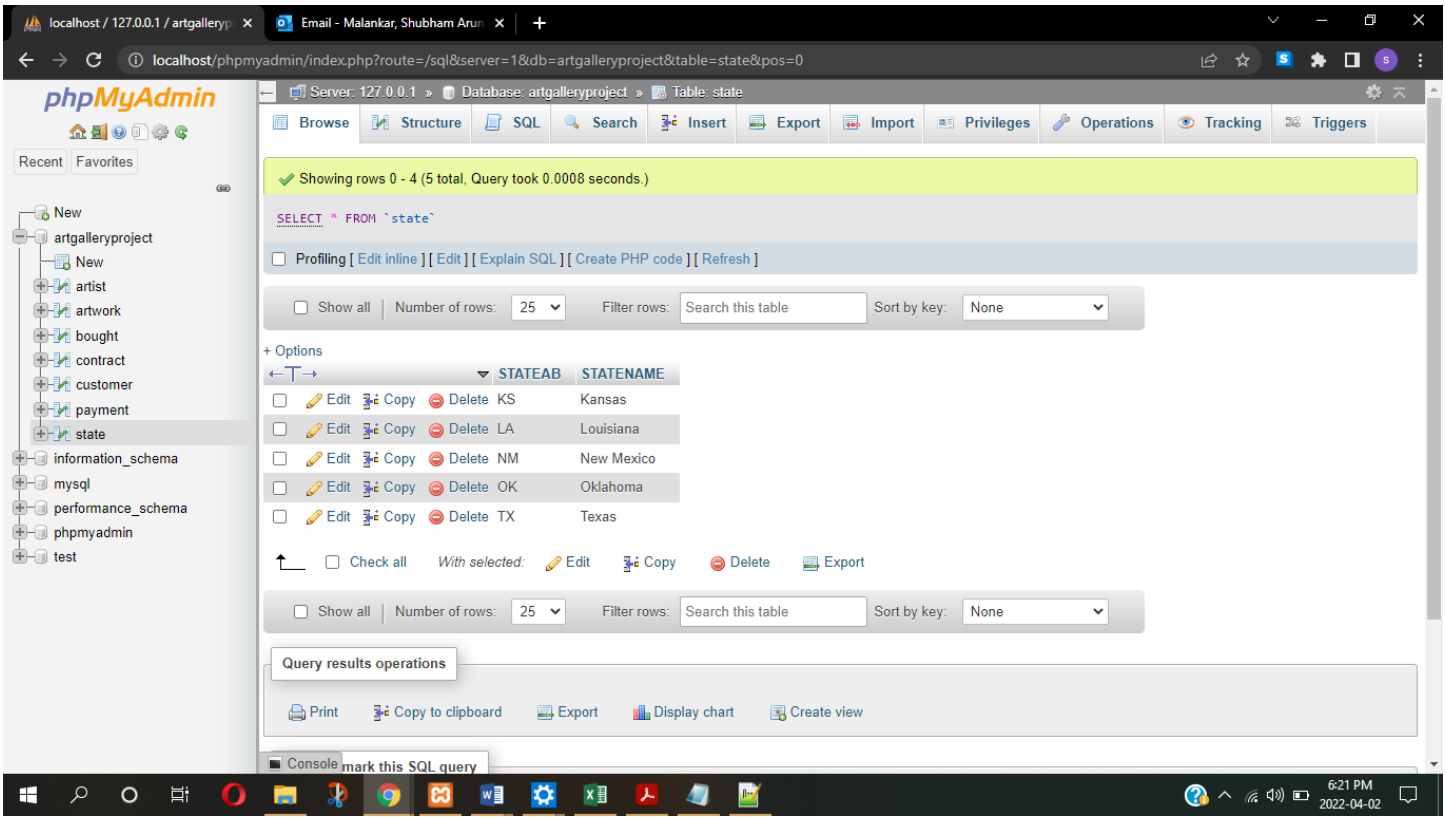

2. ‘artist’ table –

```
CREATE TABLE `artgalleryproject`.`artist` (
`AID` INT(50) NOT NULL ,
`NAME` TEXT NOT NULL ,
`BIRTHDATE` DATE NOT NULL ,
`DEATHDATE` DATE NULL DEFAULT NULL ,
`COMMISSION` INT(50) NOT NULL ,
`STREET` VARCHAR(500) NOT NULL ,
`CITY` TEXT NOT NULL ,
`STATEAB` VARCHAR(10) NOT NULL ,
`ZIPCODE` VARCHAR(15) NOT NULL ,
PRIMARY KEY (`AID`),
FOREIGN KEY(STATEAB) REFERENCES state(STATEAB)) ENGINE = InnoDB;
```

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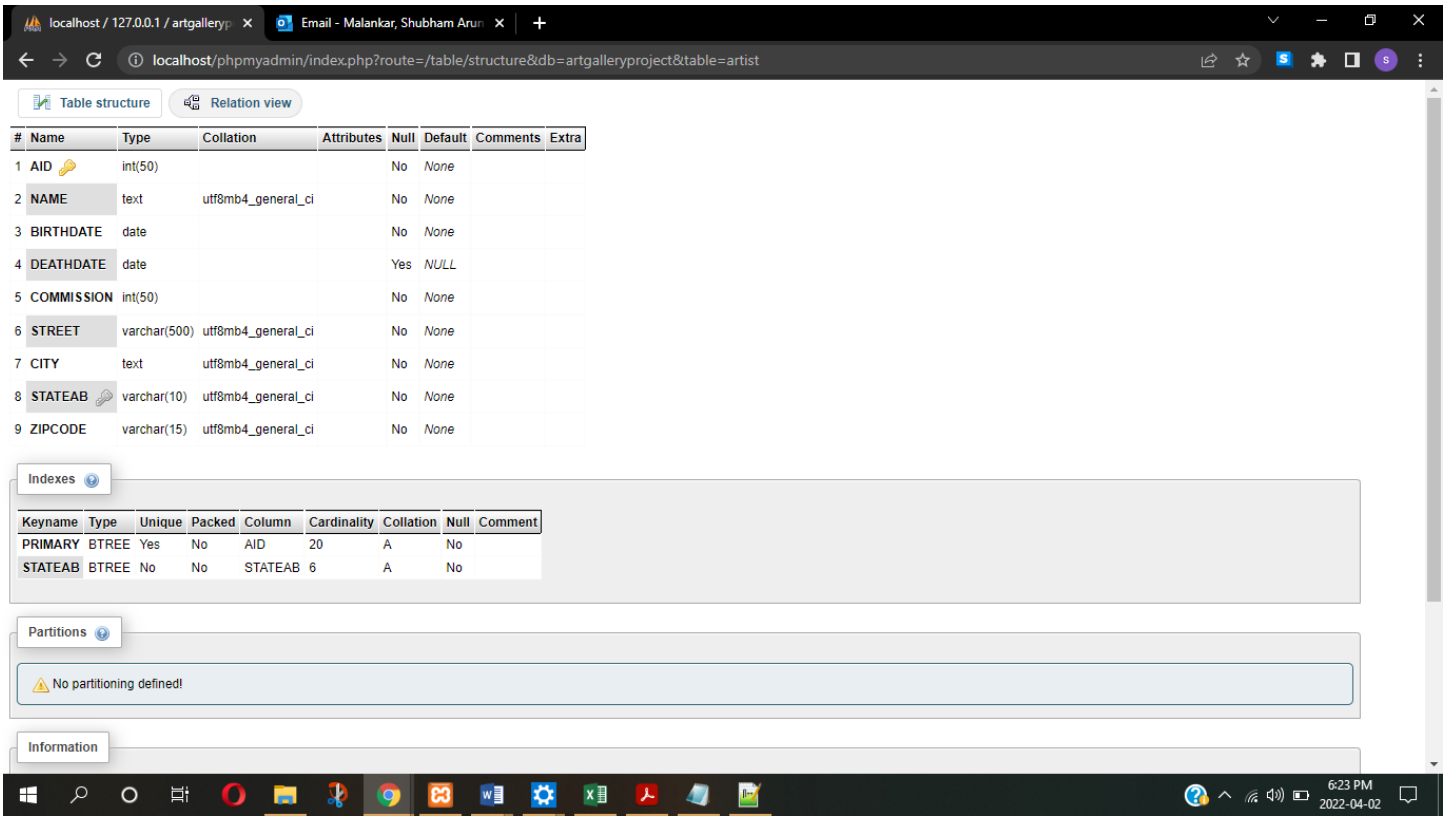
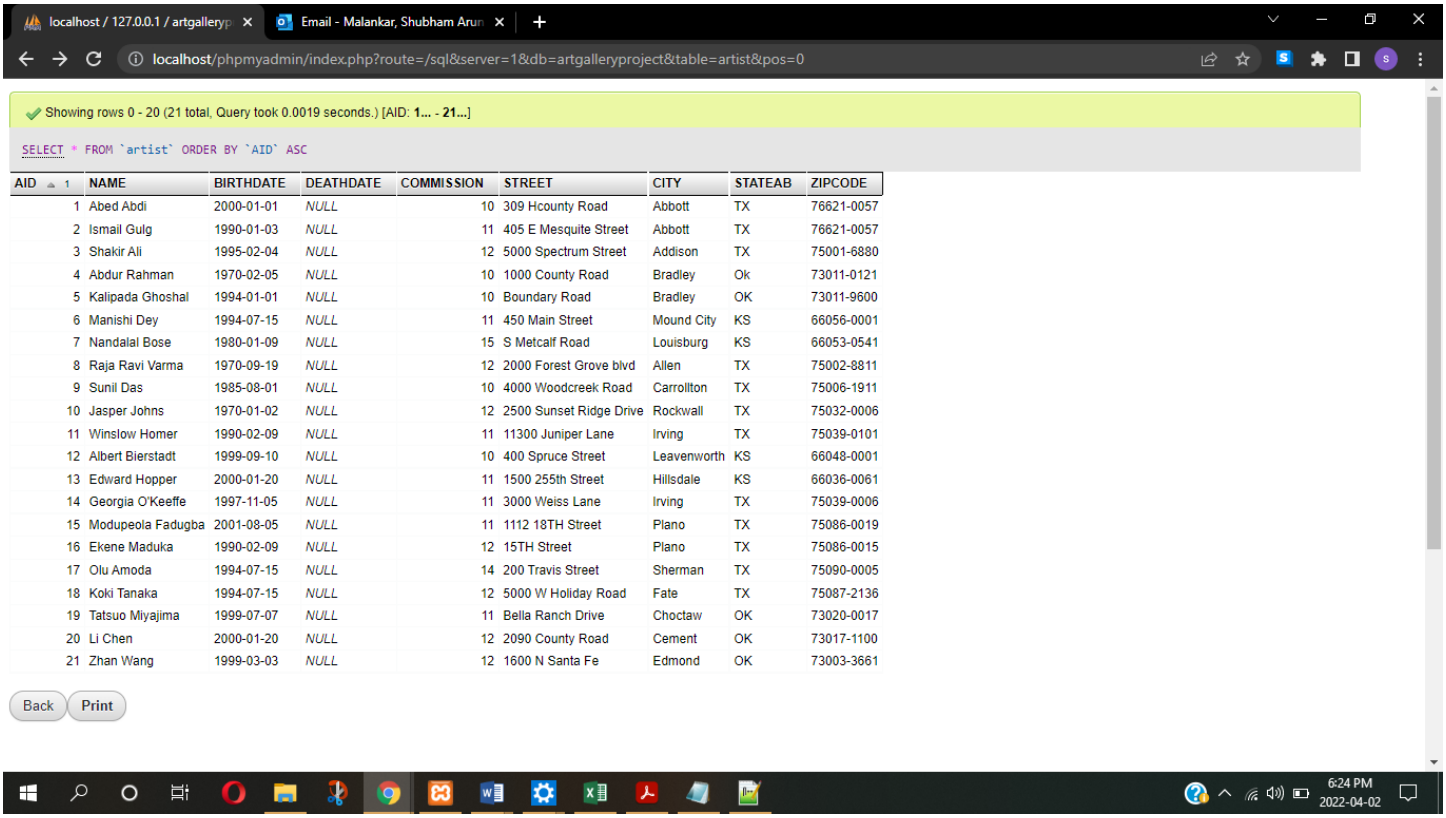
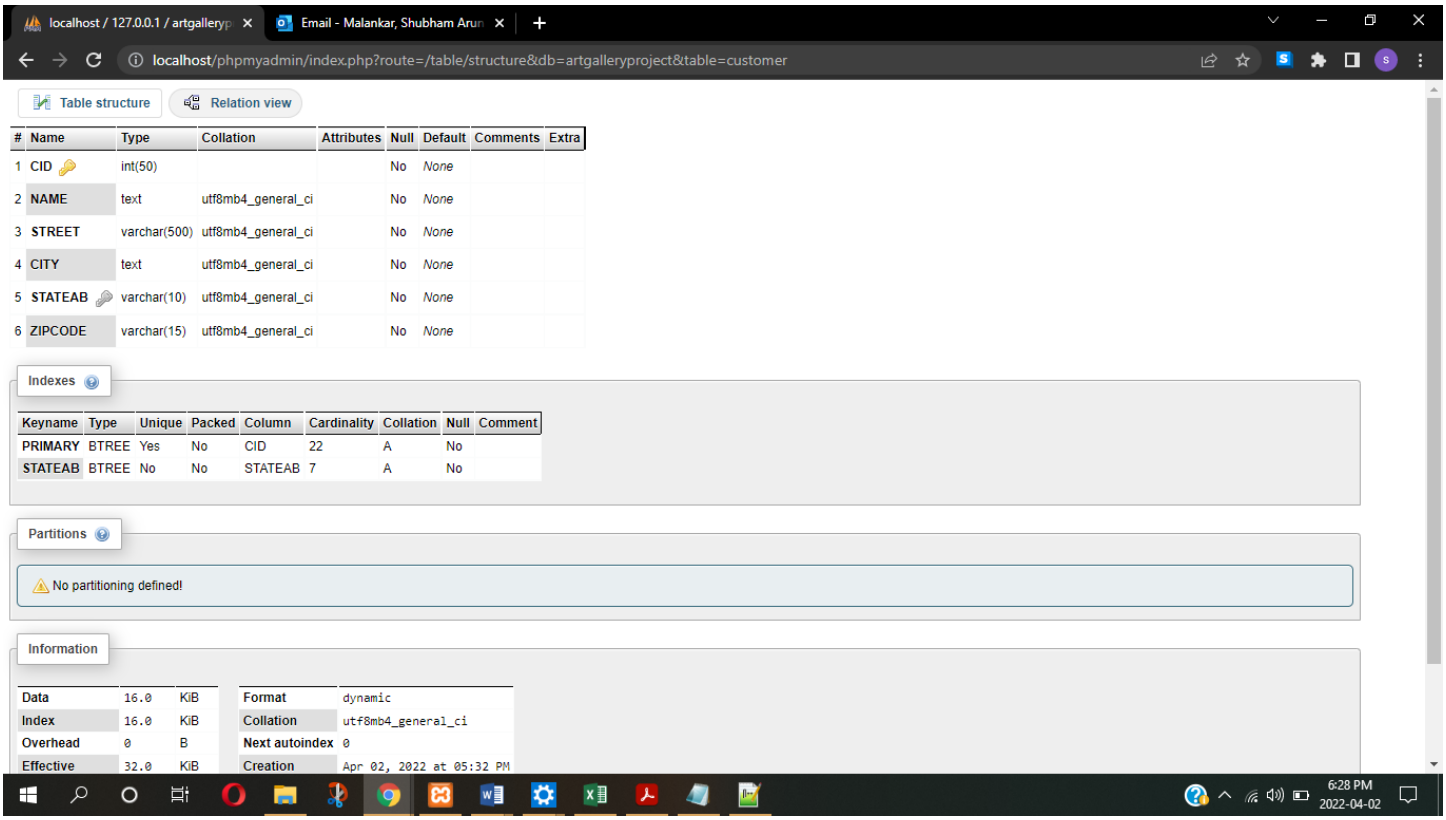

localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/table/structure&db=artgalleryproject&table=artist
Table structure
Relation view
Name Type Collation Attributes Null Default Comments Extra
1 AID int(50) No None
2 NAME text utf8mb4_general_ci No None
3 BIRTHDATE date No None
4 DEATHDATE date Yes NULL
5 COMMISSION int(50) No None
6 STREET varchar(500) utf8mb4_general_ci No None
7 CITY text utf8mb4_general_ci No None
8 STATEAB varchar(10) utf8mb4_general_ci No None
9 ZIPCODE varchar(15) utf8mb4_general_ci No None
Indexes
Keyname Type Unique Packed Column Cardinality Collation Null Comment
PRIMARY BTREE Yes No AID 20 A No
STATEAB BTREE No No STATEAB 6 A No
Partitions
No partitioning defined!
Information
6:23 PM
2022-04-02


localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/sql&server=1&db=artgalleryproject&table=artist&pos=0
Showing rows 0 - 20 (21 total, Query took 0.0019 seconds.) [AID: 1... - 21...]
SELECT * FROM `artist` ORDER BY `AID` ASC
AID 1 NAME BIRTHDATE DEATHDATE COMMISSION STREET CITY STATEAB ZIPCODE
1 Abed Abdi 2000-01-01 NULL 10 309 Hcounty Road Abbott TX 76621-0057
2 Ismail Gulg 1990-01-03 NULL 11 405 E Mesquite Street Abbott TX 76621-0057
3 Shakir Ali 1995-02-04 NULL 12 5000 Spectrum Street Addison TX 75001-6880
4 Abdur Rahman 1970-02-05 NULL 10 1000 County Road Bradley Ok 73011-0121
5 Kalipada Ghoshal 1994-01-01 NULL 10 Boundary Road Bradley OK 73011-9600
6 Manishi Dey 1994-07-15 NULL 11 450 Main Street Mound City KS 66056-0001
7 Nandalal Bose 1980-01-09 NULL 15 S Metcalf Road Louisburg KS 66053-0541
8 Raja Ravi Varma 1970-09-19 NULL 12 2000 Forest Grove blvd Allen TX 75002-8811
9 Sunil Das 1985-08-01 NULL 10 4000 Woodcreek Road Carrollton TX 75006-1911
10 Jasper Johns 1970-01-02 NULL 12 2500 Sunset Ridge Drive Rockwall TX 75032-0006
11 Winslow Homer 1990-02-09 NULL 11 11300 Juniper Lane Irving TX 75039-0101
12 Albert Bierstadt 1999-09-10 NULL 10 400 Spruce Street Leavenworth KS 66048-0001
13 Edward Hopper 2000-01-20 NULL 11 1500 255th Street Hillsdale KS 66036-0061
14 Georgia O'Keeffe 1997-11-05 NULL 11 3000 Weiss Lane Irving TX 75039-0006
15 Modupeola Fadugba 2001-08-05 NULL 11 1112 18TH Street Plano TX 75086-0019
16 Ekene Maduka 1990-02-09 NULL 12 15TH Street Plano TX 75086-0015
17 Olu Amoda 1994-07-15 NULL 14 200 Travis Street Sherman TX 75090-0005
18 Koki Tanaka 1994-07-15 NULL 12 5000 W Holiday Road Fate TX 75087-2136
19 Tatsuo Miyajima 1999-07-07 NULL 11 Bella Ranch Drive Choctaw OK 73020-0017
20 Li Chen 2000-01-20 NULL 12 2090 County Road Cement OK 73017-1100
21 Zhan Wang 1999-03-03 NULL 12 1600 N Santa Fe Edmond OK 73003-3661
Back
Print
6:24 PM
2022-04-02

3. ‘customer’ table –

```
CREATE TABLE `artgalleryproject`.`customer` (
`CID` INT(50) NOT NULL ,
`NAME` TEXT NOT NULL ,
`STREET` VARCHAR(500) NOT NULL ,
`CITY` TEXT NOT NULL ,
`STATEAB` VARCHAR(10) NOT NULL ,
`ZIPCODE` INT(10) NOT NULL ,
PRIMARY KEY (`CID`),
FOREIGN KEY(STATEAB) REFERENCES state(STATEAB)) ENGINE = InnoDB;
```



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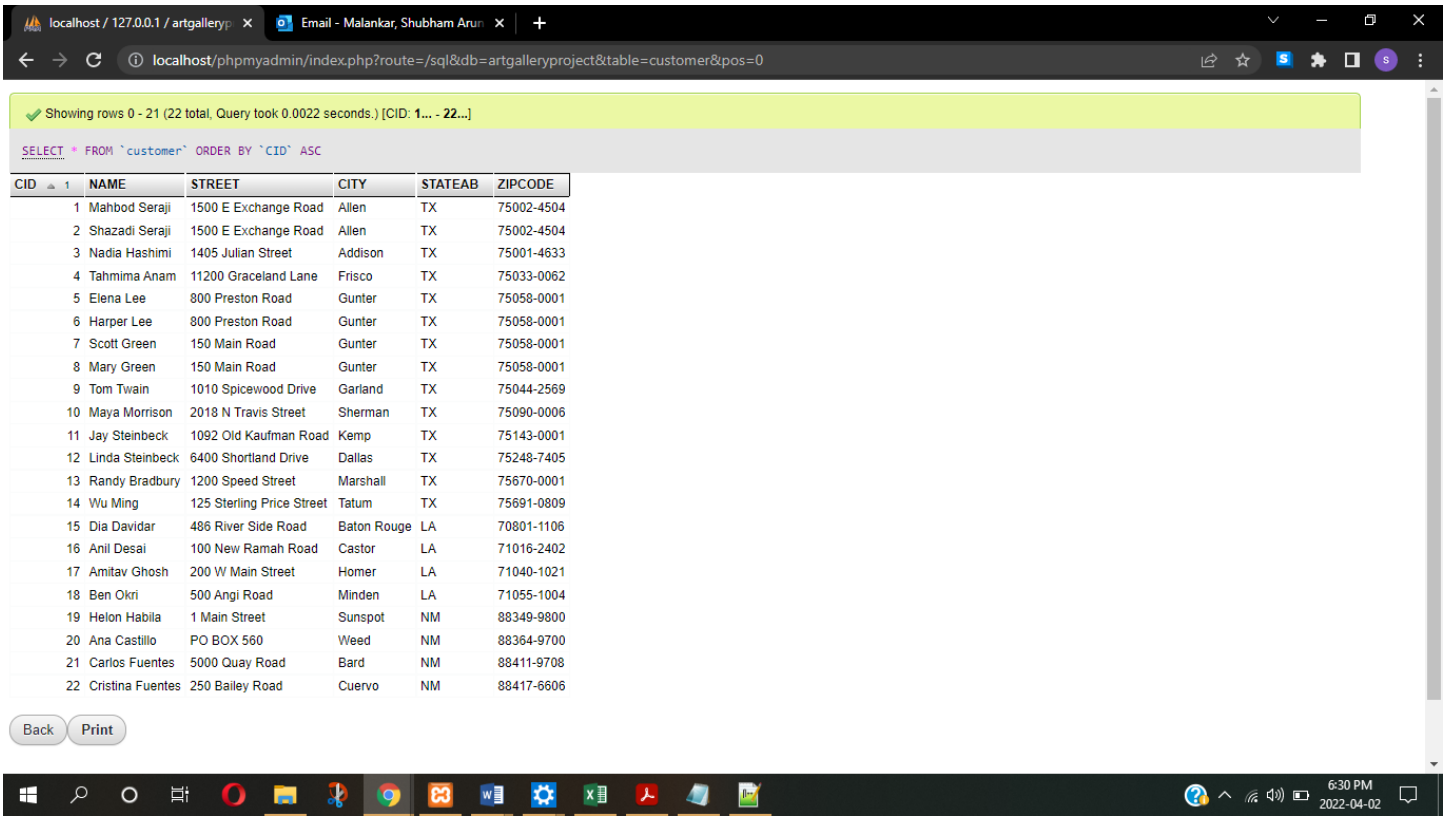

4. ‘artwork’ table –

```
CREATE TABLE `artgalleryproject`.`artwork` (
`AID` INT(50) NOT NULL ,
`ARTID` INT(50) NOT NULL ,
`TITLE` TEXT NOT NULL ,
`CREATIONDATE` DATE NOT NULL ,
`ACQUISITIONDATE` DATE NOT NULL ,
`PRICE` DECIMAL(11,2) NOT NULL ,
`FORM` TEXT NOT NULL ,
PRIMARY KEY (`ARTID`) ,
FOREIGN KEY(aid) REFERENCES artist(AID)) ENGINE = InnoDB;
```

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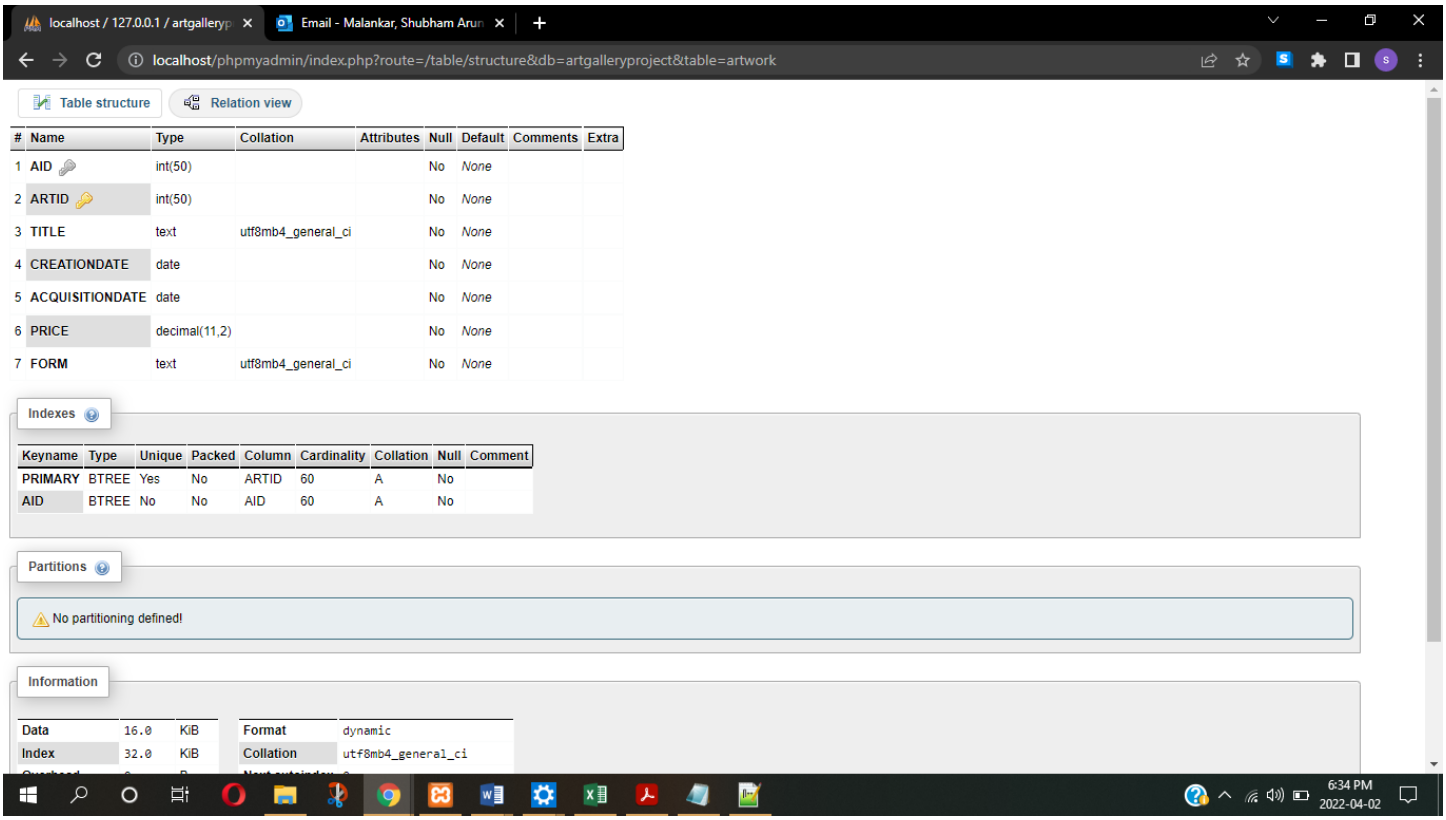
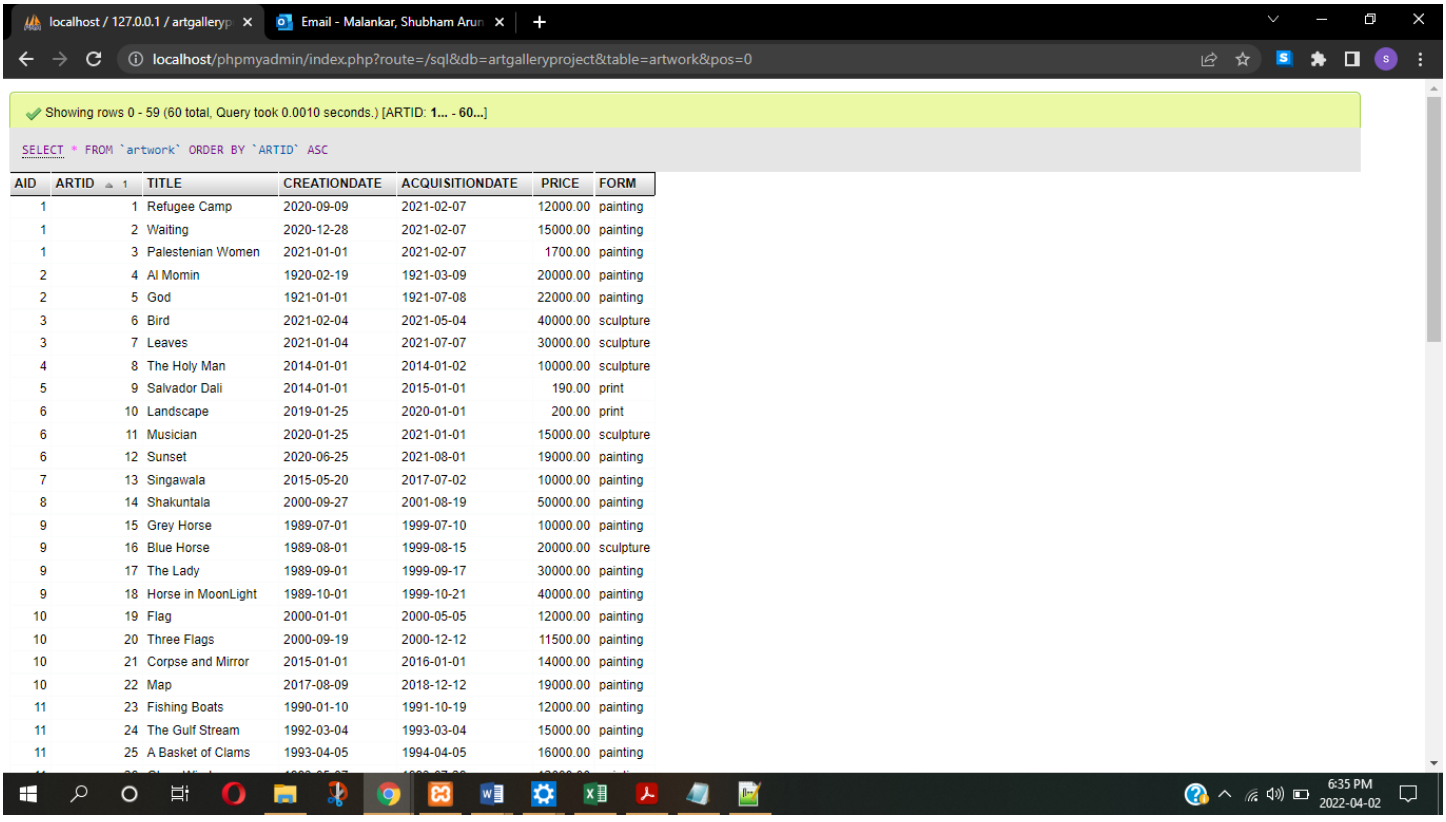

localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/table/structure&db=artgalleryproject&table=artwork
Table structure
Relation view
Name Type Collation Attributes Null Default Comments Extra
1 AID int(50) No None
2 ARTID int(50) No None
3 TITLE text utf8mb4_general_ci No None
4 CREATIONDATE date No None
5 ACQUISITIONDATE date No None
6 PRICE decimal(11,2) No None
7 FORM text utf8mb4_general_ci No None
Indexes
Keyname Type Unique Packed Column Cardinality Collation Null Comment
PRIMARY BTREE Yes No ARTID 60 A No
AID BTREE No No AID 60 A No
Partitions
No partitioning defined!
Information
Data 16.0 KiB
Index 32.0 KiB
Format dynamic
Collation utf8mb4_general_ci
6:34 PM
2022-04-02


localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/sql&db=artgalleryproject&table=artwork&pos=0
Showing rows 0 - 59 (60 total, Query took 0.0010 seconds.) [ARTID: 1... - 60...]
SELECT * FROM `artwork` ORDER BY `ARTID` ASC
AID ARTID TITLE CREATIONDATE ACQUISITIONDATE PRICE FORM
1 1 Refugee Camp 2020-09-09 2021-02-07 12000.00 painting
1 2 Waiting 2020-12-28 2021-02-07 15000.00 painting
1 3 Palestenian Women 2021-01-01 2021-02-07 1700.00 painting
2 4 Al Momin 1920-02-19 1921-03-09 20000.00 painting
2 5 God 1921-01-01 1921-07-08 22000.00 painting
3 6 Bird 2021-02-04 2021-05-04 40000.00 sculpture
3 7 Leaves 2021-01-04 2021-07-07 30000.00 sculpture
4 8 The Holy Man 2014-01-01 2014-01-02 10000.00 sculpture
5 9 Salvador Dali 2014-01-01 2015-01-01 190.00 print
6 10 Landscape 2019-01-25 2020-01-01 200.00 print
6 11 Musician 2020-01-25 2021-01-01 15000.00 sculpture
6 12 Sunset 2020-06-25 2021-08-01 19000.00 painting
7 13 Singawala 2015-05-20 2017-07-02 10000.00 painting
8 14 Shakuntala 2000-09-27 2001-08-19 50000.00 painting
9 15 Grey Horse 1989-07-01 1999-07-10 10000.00 painting
9 16 Blue Horse 1989-08-01 1999-08-15 20000.00 sculpture
9 17 The Lady 1989-09-01 1999-09-17 30000.00 painting
9 18 Horse in MoonLight 1989-10-01 1999-10-21 40000.00 painting
10 19 Flag 2000-01-01 2000-05-05 12000.00 painting
10 20 Three Flags 2000-09-19 2000-12-12 11500.00 painting
10 21 Corpse and Mirror 2015-01-01 2016-01-01 14000.00 painting
10 22 Map 2017-08-09 2018-12-12 19000.00 painting
11 23 Fishing Boats 1990-01-10 1991-10-19 12000.00 painting
11 24 The Gulf Stream 1992-03-04 1993-03-04 15000.00 painting
11 25 A Basket of Clams 1993-04-05 1994-04-05 16000.00 painting
6:35 PM
2022-04-02

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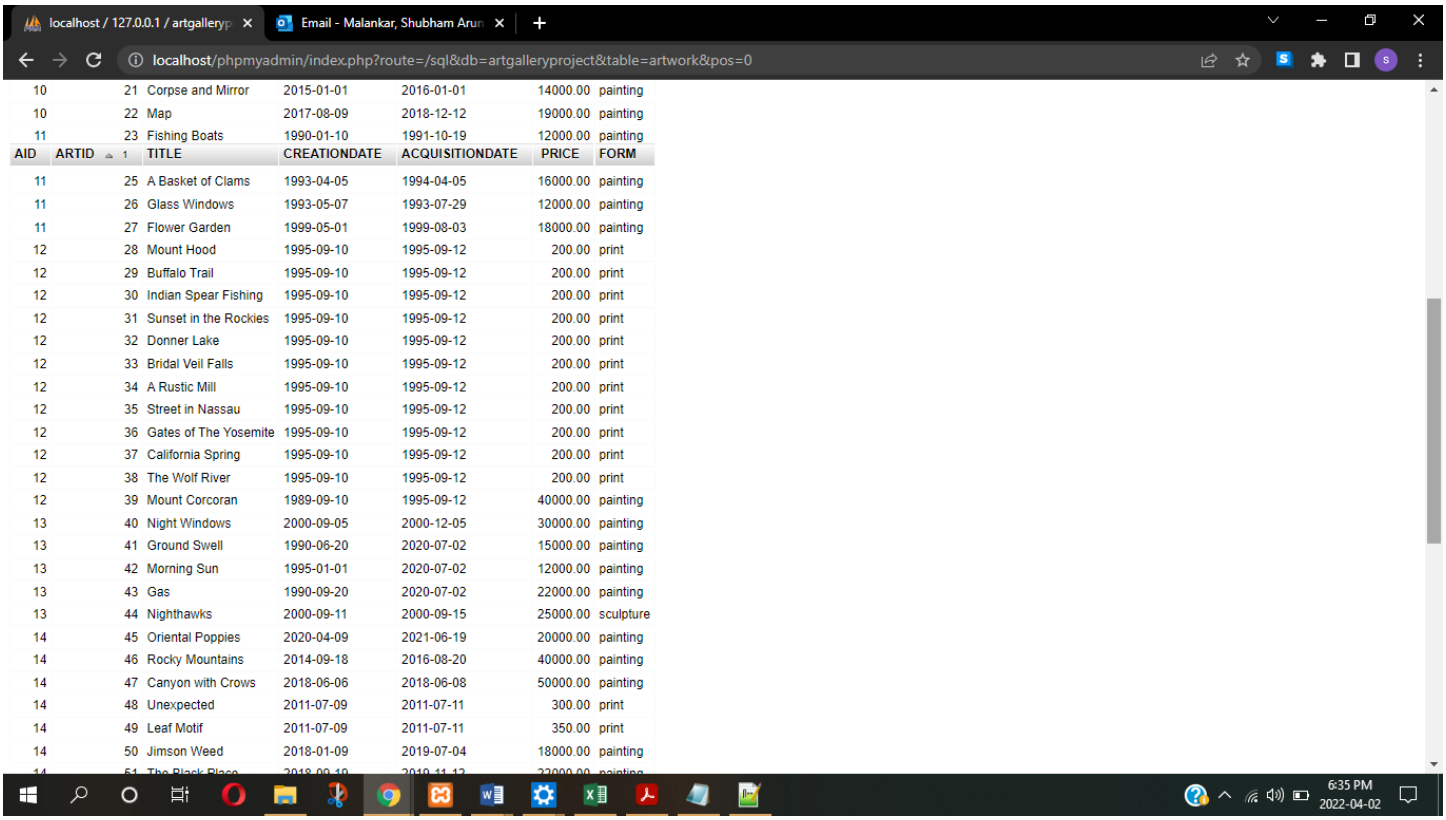
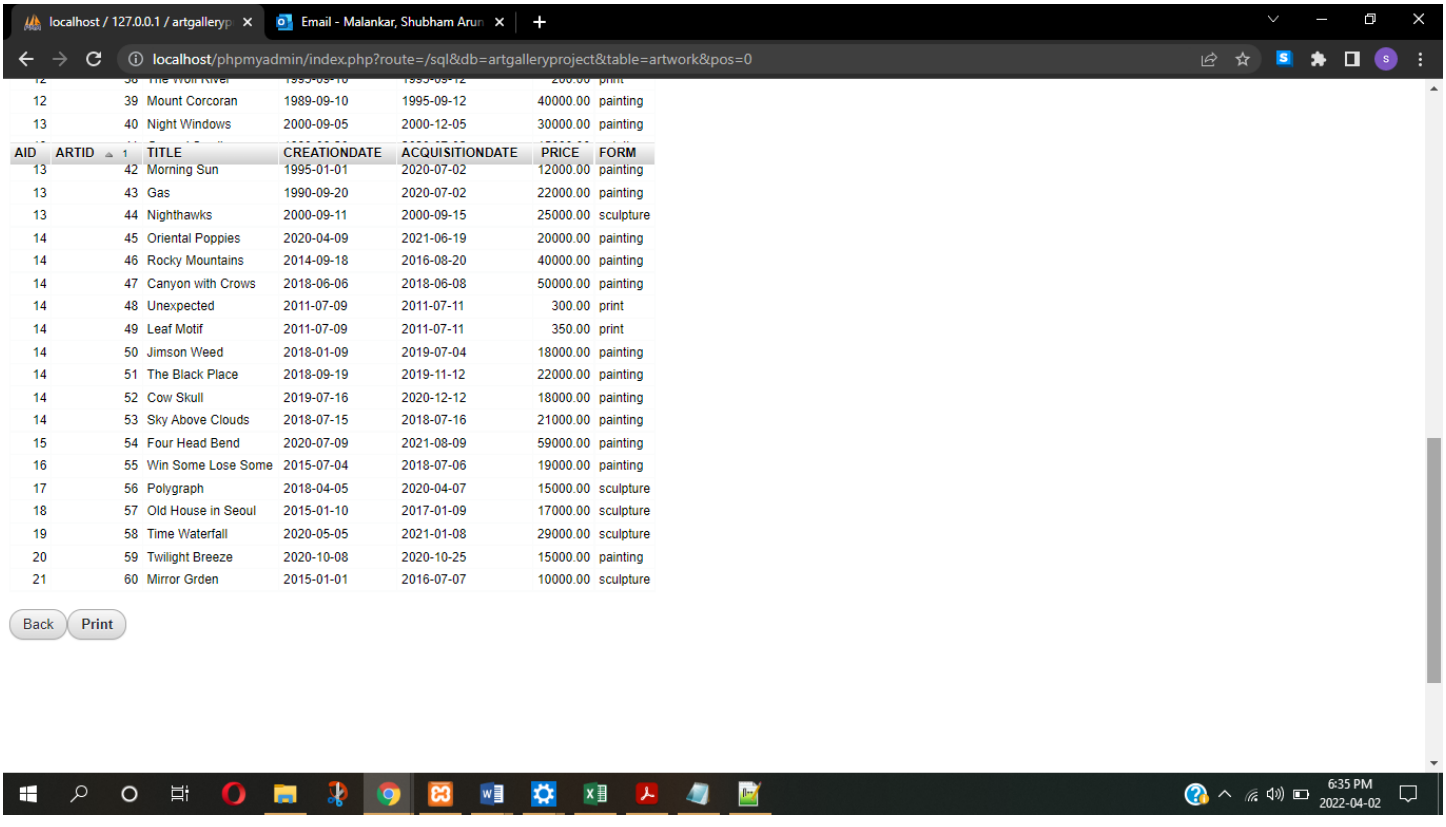


AID	ARTID	TITLE	CREATIONDATE	ACQUISITIONDATE	PRICE	FORM
10	21	Corpse and Mirror	2015-01-01	2016-01-01	14000.00	painting
10	22	Map	2017-08-09	2018-12-12	19000.00	painting
11	23	Fishing Boats	1990-01-10	1991-10-19	12000.00	painting
11	25	A Basket of Clams	1993-04-05	1994-04-05	16000.00	painting
11	26	Glass Windows	1993-05-07	1993-07-29	12000.00	painting
11	27	Flower Garden	1999-05-01	1999-08-03	18000.00	painting
12	28	Mount Hood	1995-09-10	1995-09-12	200.00	print
12	29	Buffalo Trail	1995-09-10	1995-09-12	200.00	print
12	30	Indian Spear Fishing	1995-09-10	1995-09-12	200.00	print
12	31	Sunset in the Rockies	1995-09-10	1995-09-12	200.00	print
12	32	Donner Lake	1995-09-10	1995-09-12	200.00	print
12	33	Bridal Veil Falls	1995-09-10	1995-09-12	200.00	print
12	34	A Rustic Mill	1995-09-10	1995-09-12	200.00	print
12	35	Street in Nassau	1995-09-10	1995-09-12	200.00	print
12	36	Gates of The Yosemite	1995-09-10	1995-09-12	200.00	print
12	37	California Spring	1995-09-10	1995-09-12	200.00	print
12	38	The Wolf River	1995-09-10	1995-09-12	200.00	print
12	39	Mount Corcoran	1989-09-10	1995-09-12	40000.00	painting
13	40	Night Windows	2000-09-05	2000-12-05	30000.00	painting
13	41	Ground Swell	1990-06-20	2020-07-02	15000.00	painting
13	42	Morning Sun	1995-01-01	2020-07-02	12000.00	painting
13	43	Gas	1990-09-20	2020-07-02	22000.00	painting
13	44	Nighthawks	2000-09-11	2000-09-15	25000.00	sculpture
14	45	Oriental Poppies	2020-04-09	2021-06-19	20000.00	painting
14	46	Rocky Mountains	2014-09-18	2016-08-20	40000.00	painting
14	47	Canyon with Crows	2018-06-06	2018-06-08	50000.00	painting
14	48	Unexpected	2011-07-09	2011-07-11	300.00	print
14	49	Leaf Motif	2011-07-09	2011-07-11	350.00	print
14	50	Jimson Weed	2018-01-09	2019-07-04	18000.00	painting

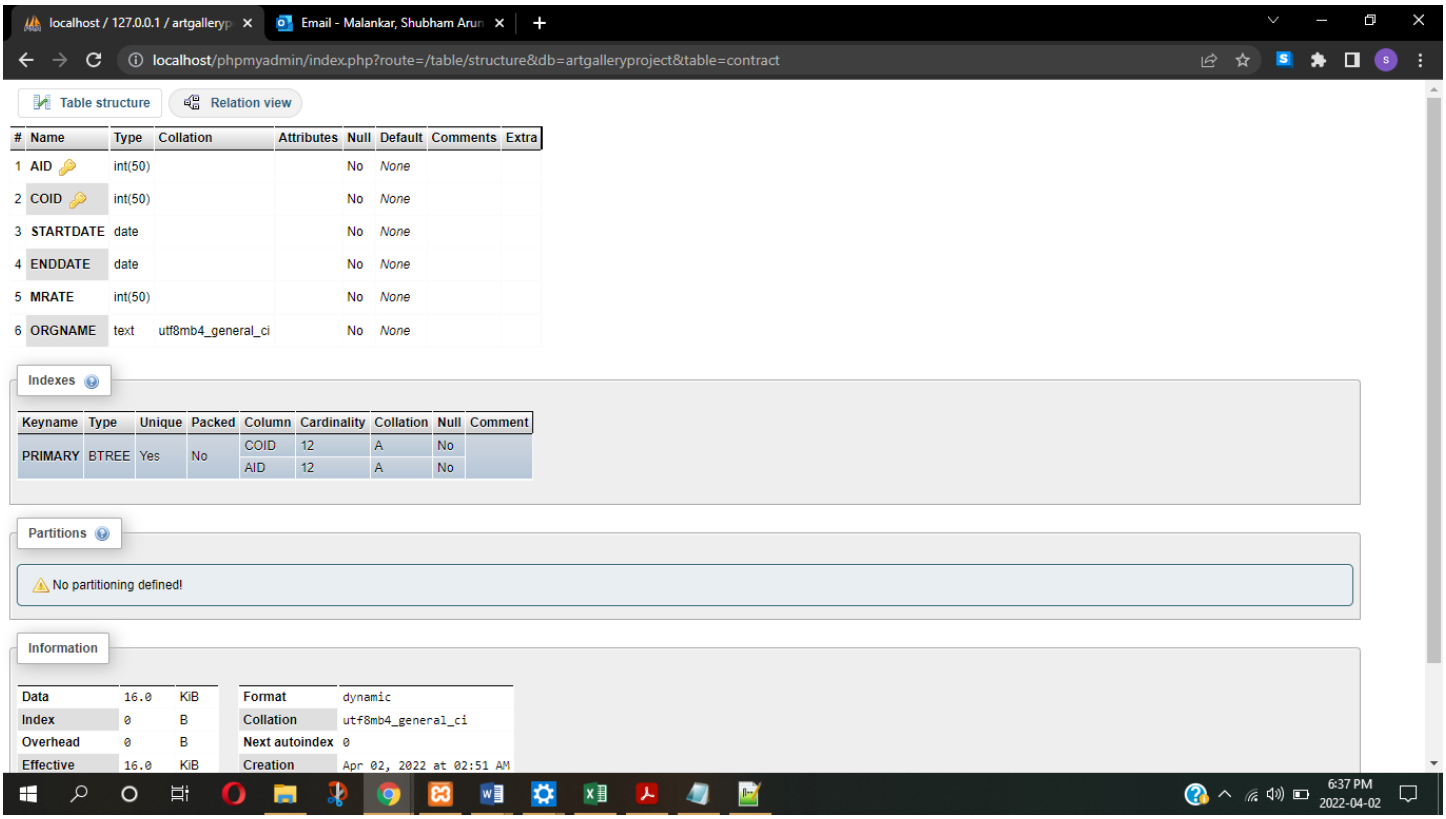


AID	ARTID	TITLE	CREATIONDATE	ACQUISITIONDATE	PRICE	FORM
12	39	Mount Corcoran	1989-09-10	1995-09-12	40000.00	painting
13	40	Night Windows	2000-09-05	2000-12-05	30000.00	painting
13	42	Morning Sun	1995-01-01	2020-07-02	12000.00	painting
13	43	Gas	1990-09-20	2020-07-02	22000.00	painting
13	44	Nighthawks	2000-09-11	2000-09-15	25000.00	sculpture
14	45	Oriental Poppies	2020-04-09	2021-06-19	20000.00	painting
14	46	Rocky Mountains	2014-09-18	2016-08-20	40000.00	painting
14	47	Canyon with Crows	2018-06-06	2018-06-08	50000.00	painting
14	48	Unexpected	2011-07-09	2011-07-11	300.00	print
14	49	Leaf Motif	2011-07-09	2011-07-11	350.00	print
14	50	Jimson Weed	2018-01-09	2019-07-04	18000.00	painting
14	51	The Black Place	2018-09-19	2019-11-12	22000.00	painting
14	52	Cow Skull	2019-07-16	2020-12-12	18000.00	painting
14	53	Sky Above Clouds	2018-07-15	2018-07-16	21000.00	painting
15	54	Four Head Bend	2020-07-09	2021-08-09	59000.00	painting
16	55	Win Some Lose Some	2015-07-04	2018-07-06	19000.00	painting
17	56	Polygraph	2018-04-05	2020-04-07	15000.00	sculpture
18	57	Old House in Seoul	2015-01-10	2017-01-09	17000.00	sculpture
19	58	Time Waterfall	2020-05-05	2021-01-08	29000.00	sculpture
20	59	Twilight Breeze	2020-10-08	2020-10-25	15000.00	painting
21	60	Mirror Grden	2015-01-01	2016-07-07	10000.00	sculpture

Back Print

5. ‘contract’ table –

```
CREATE TABLE `artgalleryproject`.`contract` (
`AID` INT(50) NOT NULL ,
`COID` INT(50) NOT NULL ,
`STARTDATE` DATE NOT NULL ,
`ENDDATE` DATE NOT NULL ,
`MRATE` INT(50) NOT NULL ,
`ORGNAME` TEXT NOT NULL ,
PRIMARY KEY (`COID`, `AID`)) ENGINE = InnoDB;
```



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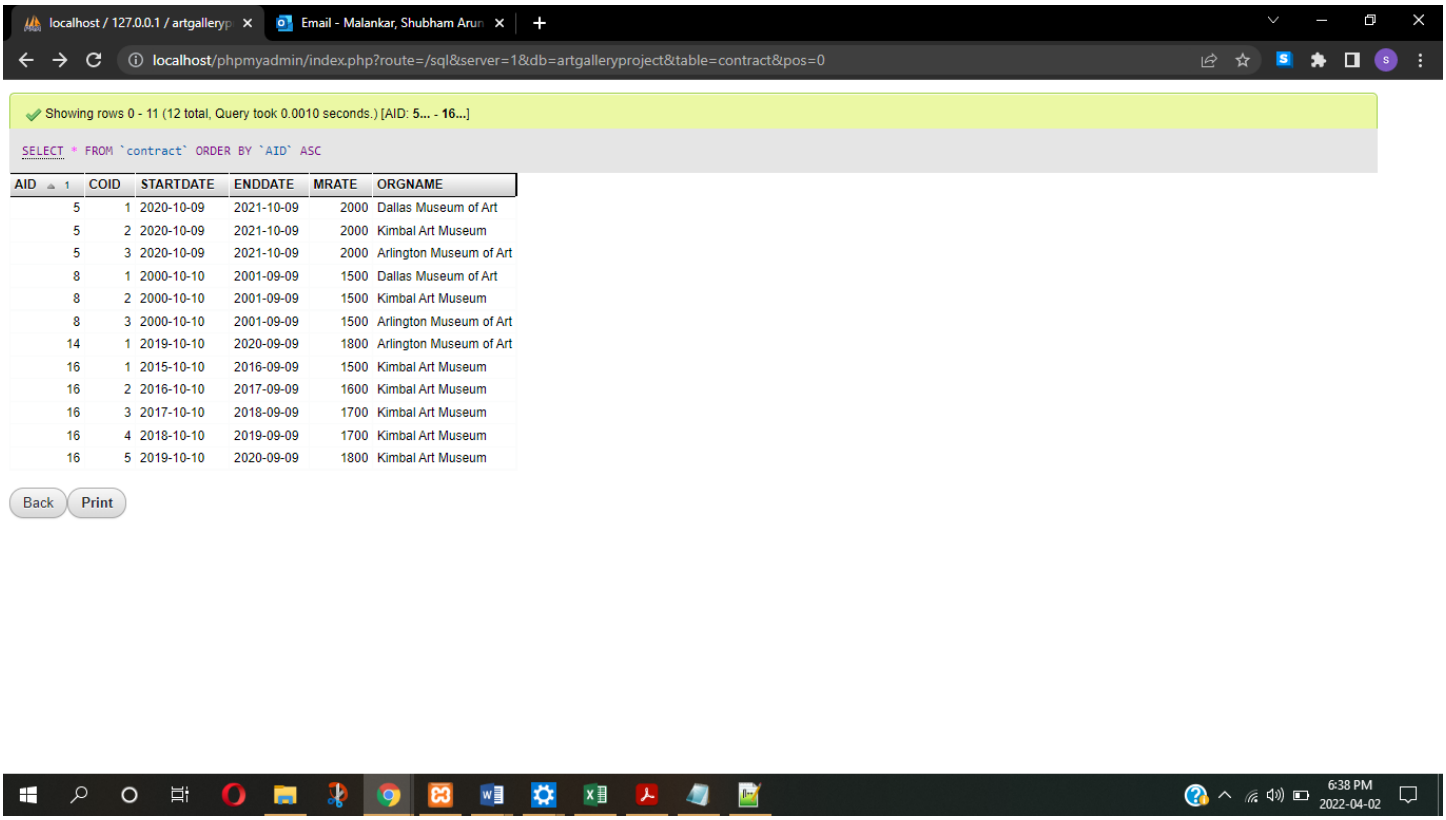

6. ‘bought’ table –

```
CREATE TABLE `artgalleryproject`.`bought` (
`ARTID` INT(50) NOT NULL ,
`CID` INT(50) NOT NULL ,
`SALEDATE` DATE NOT NULL ,
FOREIGN KEY(ARTID) REFERENCES artwork(ARTID),
FOREIGN KEY(CID) REFERENCES customer(CID)) ENGINE = InnoDB;
```

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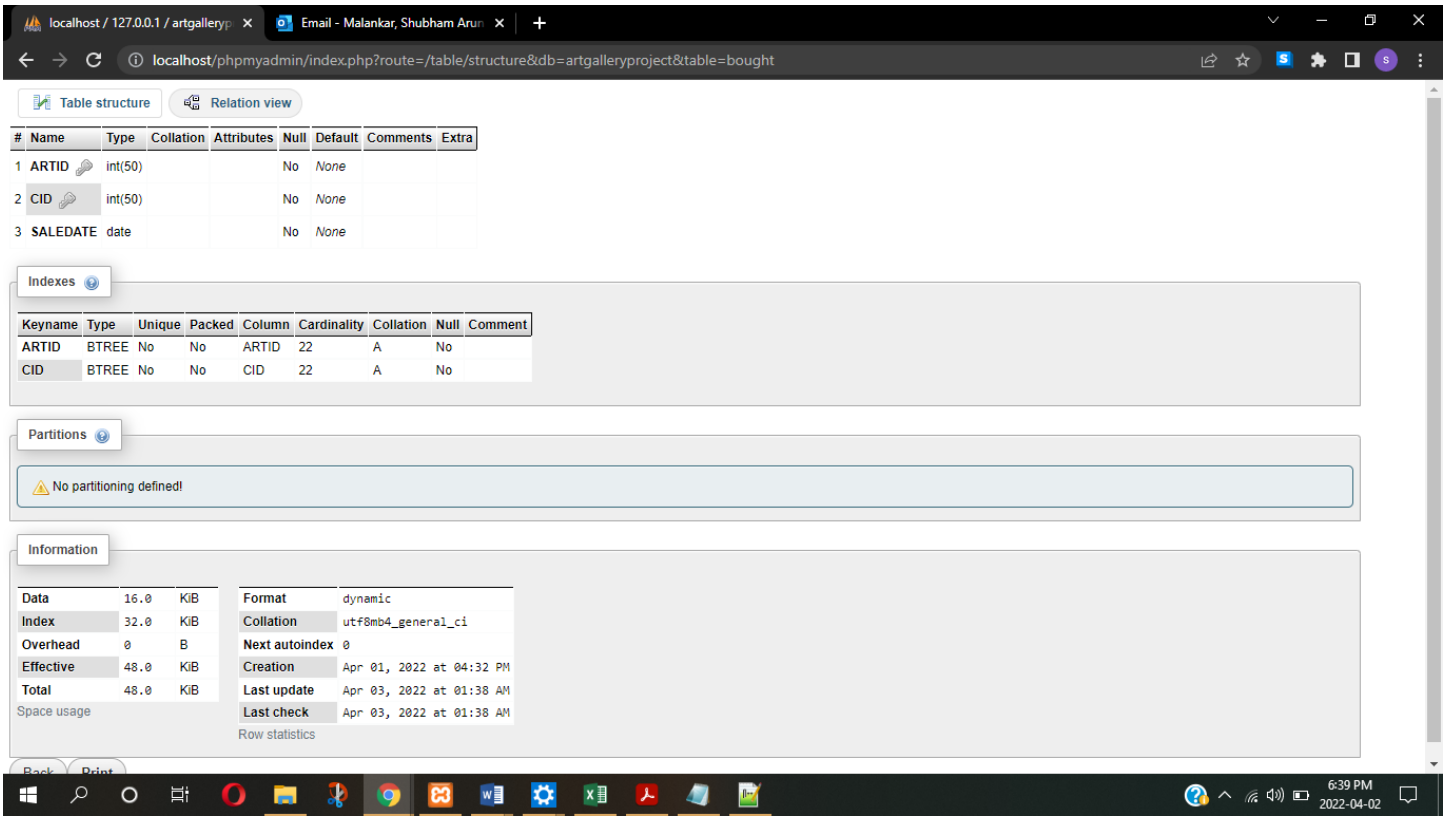
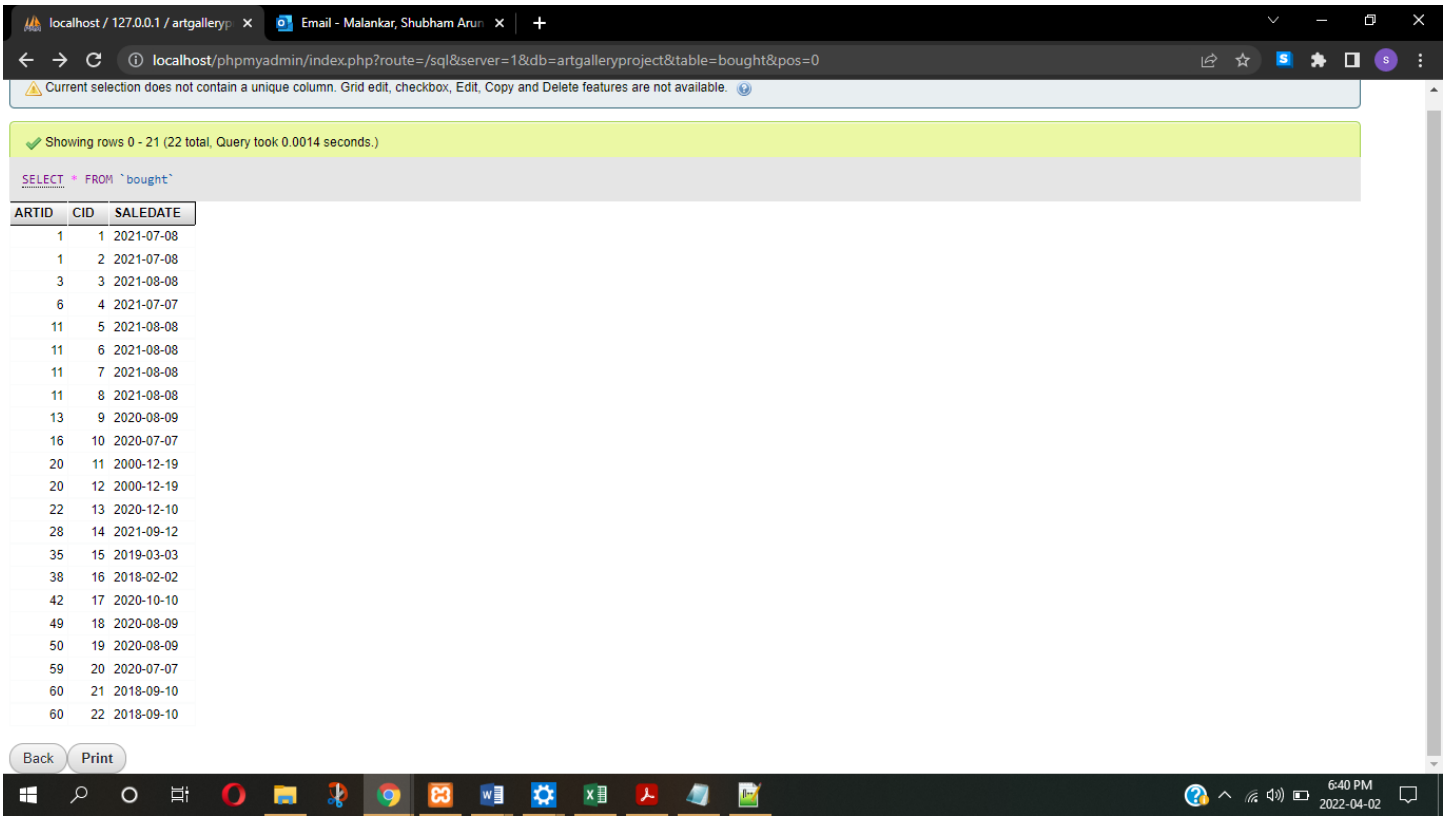
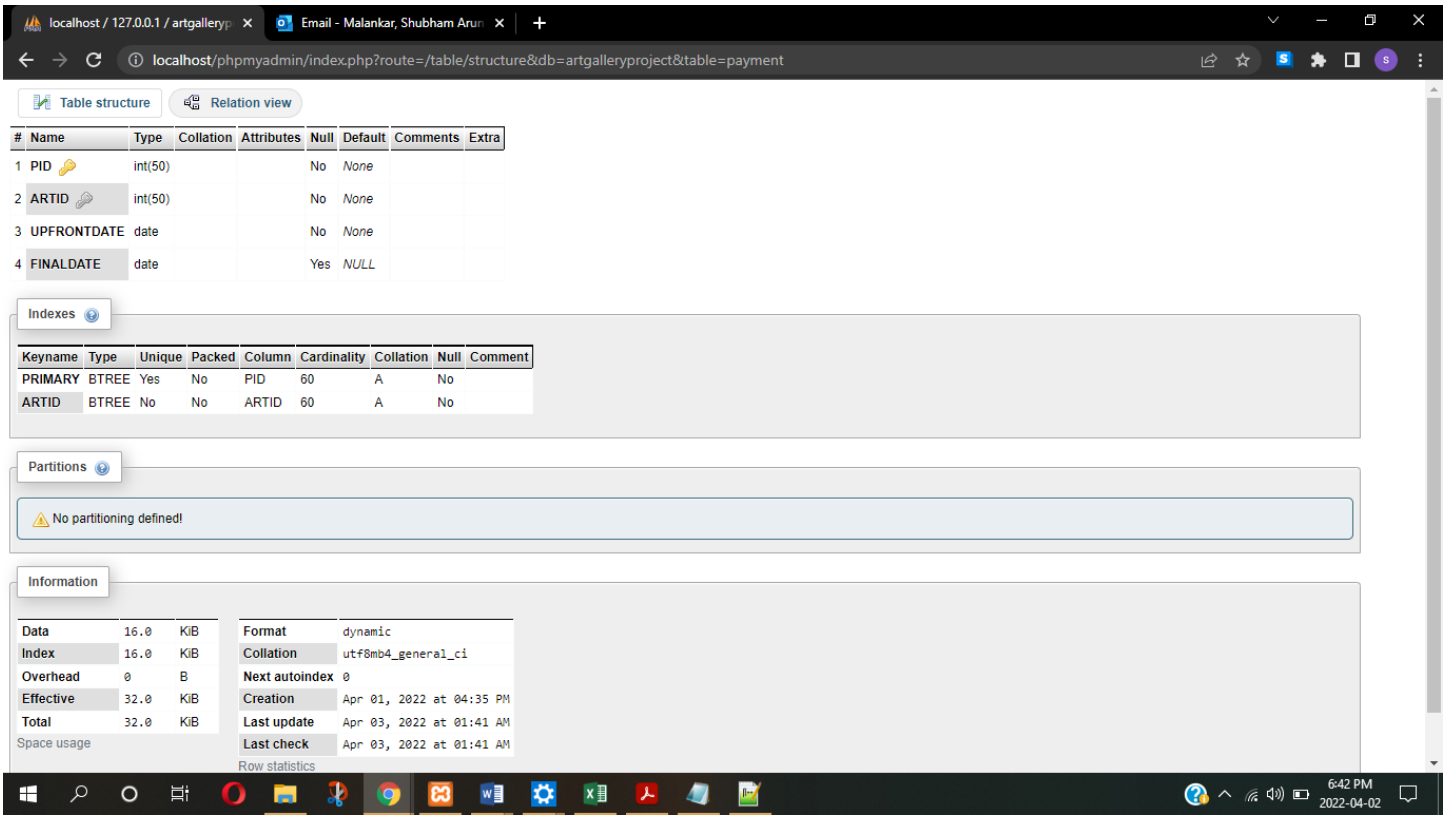

localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/table/structure&db=artgalleryproject&table=bought
Table structure
Relation view
Name Type Collation Attributes Null Default Comments Extra
1 ARTID int(50) No None
2 CID int(50) No None
3 SALEDATE date No None
Indexes
Keyname Type Unique Packed Column Cardinality Collation Null Comment
ARTID BTREE No No ARTID 22 A No
CID BTREE No No CID 22 A No
Partitions
No partitioning defined!
Information
Data 16.0 KiB
Index 32.0 KiB
Overhead 0 B
Effective 48.0 KiB
Total 48.0 KiB
Space usage
Format dynamic
Collation utf8mb4_general_ci
Next autoindex 0
Creation Apr 01, 2022 at 04:32 PM
Last update Apr 03, 2022 at 01:38 AM
Last check Apr 03, 2022 at 01:38 AM
Row statistics
Back
Print
6:39 PM
2022-04-02


localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/sql&server=1&db=artgalleryproject&table=bought&pos=0
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.
Showing rows 0 - 21 (22 total, Query took 0.0014 seconds.)
SELECT * FROM `bought`
ARTID CID SALEDATE
1 1 2021-07-08
1 2 2021-07-08
3 3 2021-08-08
6 4 2021-07-07
11 5 2021-08-08
11 6 2021-08-08
11 7 2021-08-08
11 8 2021-08-08
13 9 2020-08-09
16 10 2020-07-07
20 11 2000-12-19
20 12 2000-12-19
22 13 2020-12-10
28 14 2021-09-12
35 15 2019-03-03
38 16 2018-02-02
42 17 2020-10-10
49 18 2020-08-09
50 19 2020-08-09
59 20 2020-07-07
60 21 2018-09-10
60 22 2018-09-10
Back
Print
6:40 PM
2022-04-02

7. ‘payment’ table –

```
CREATE TABLE `artgalleryproject`.`payment` (
`PID` INT(50) NOT NULL ,
`ARTID` INT(50) NOT NULL ,
`UPFRONTDATE` DATE NOT NULL ,
`FINALDATE` DATE NULL DEFAULT NULL ,
PRIMARY KEY (`PID`),
FOREIGN KEY(ARTID) REFERENCES artwork(ARTID)) ENGINE = InnoDB;
```



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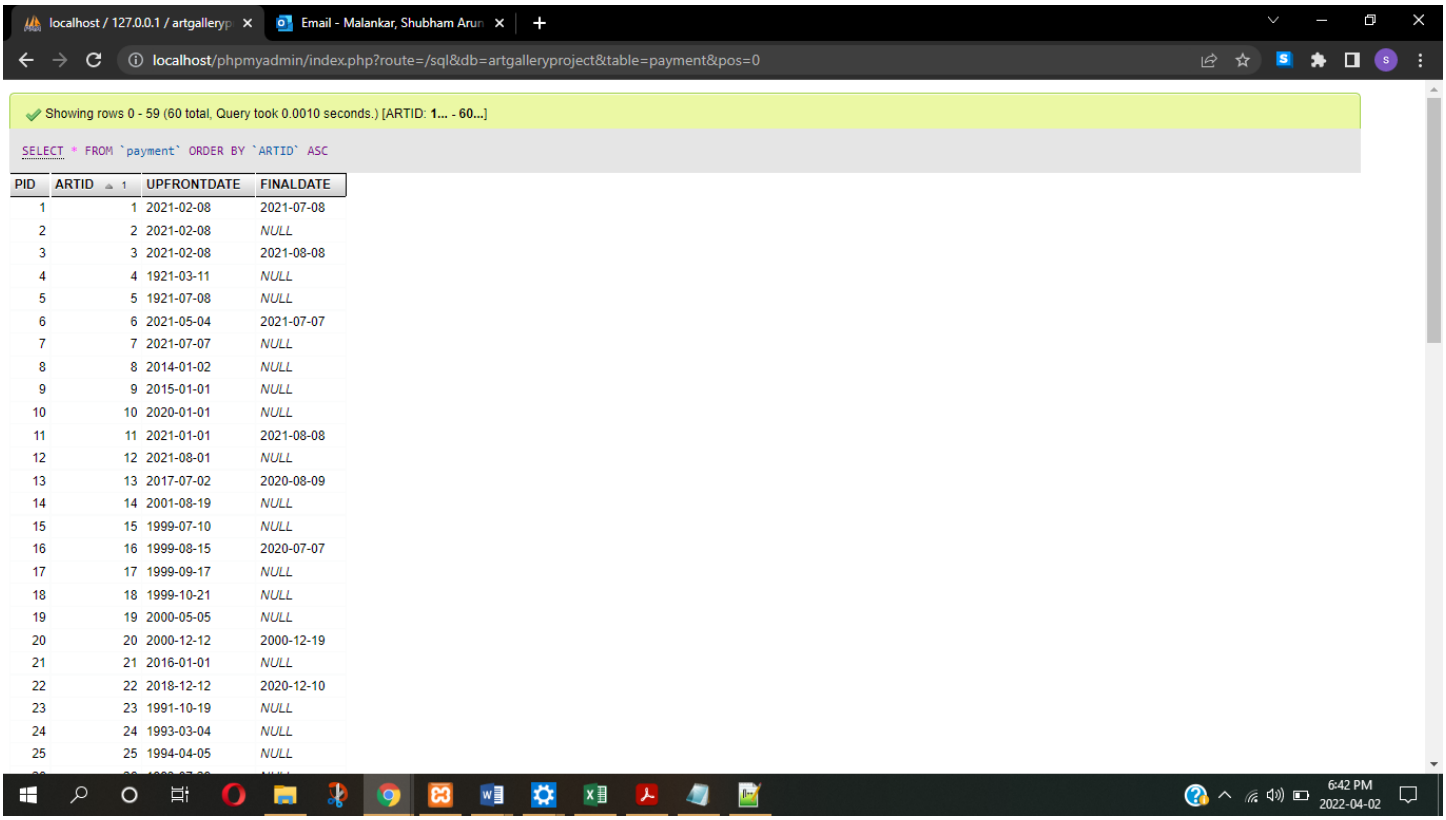
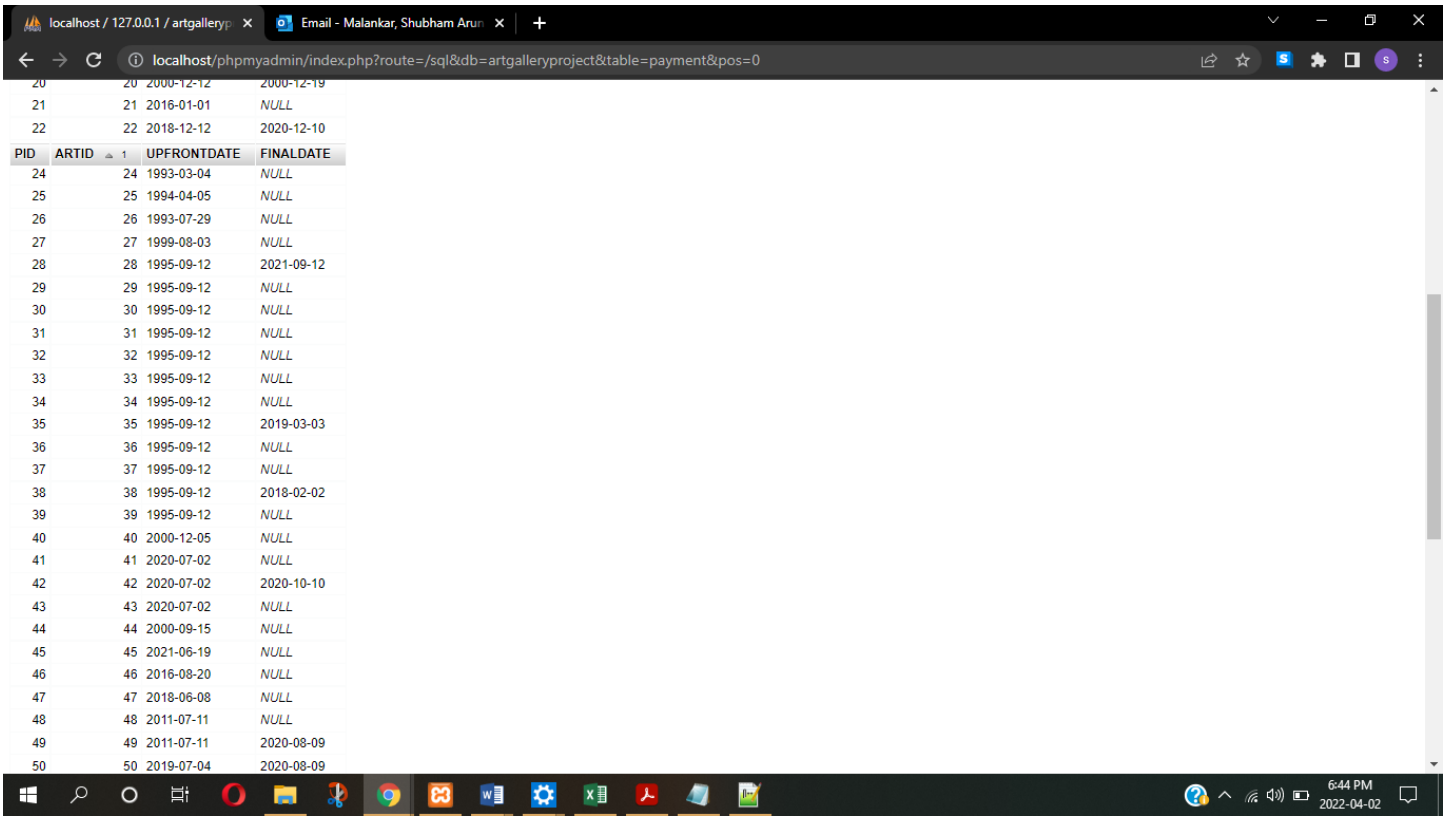

localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/sql&db=artgalleryproject&table=payment&pos=0
Showing rows 0 - 59 (60 total, Query took 0.0010 seconds.) [ARTID: 1... - 60...]
SELECT * FROM `payment` ORDER BY `ARTID` ASC
PID ARTID 1 UPFRONTDATE FINALDATE
1 1 2021-02-08 2021-07-08
2 2 2021-02-08 NULL
3 3 2021-02-08 2021-08-08
4 4 1921-03-11 NULL
5 5 1921-07-08 NULL
6 6 2021-05-04 2021-07-07
7 7 2021-07-07 NULL
8 8 2014-01-02 NULL
9 9 2015-01-01 NULL
10 10 2020-01-01 NULL
11 11 2021-01-01 2021-08-08
12 12 2021-08-01 NULL
13 13 2017-07-02 2020-08-09
14 14 2001-08-19 NULL
15 15 1999-07-10 NULL
16 16 1999-08-15 2020-07-07
17 17 1999-09-17 NULL
18 18 1999-10-21 NULL
19 19 2000-05-05 NULL
20 20 2000-12-12 2000-12-19
21 21 2016-01-01 NULL
22 22 2018-12-12 2020-12-10
23 23 1991-10-19 NULL
24 24 1993-03-04 NULL
25 25 1994-04-05 NULL
6:42 PM
2022-04-02


localhost / 127.0.0.1 / artgalleryp
Email - Malankar, Shubham Arun
localhost/phpmyadmin/index.php?route=/sql&db=artgalleryproject&table=payment&pos=0
20 20 2000-12-12 2000-12-19
21 21 2016-01-01 NULL
22 22 2018-12-12 2020-12-10
PID ARTID 1 UPFRONTDATE FINALDATE
24 24 1993-03-04 NULL
25 25 1994-04-05 NULL
26 26 1993-07-29 NULL
27 27 1999-08-03 NULL
28 28 1995-09-12 2021-09-12
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40 40 2000-12-05 NULL
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48 48 2011-07-11 NULL
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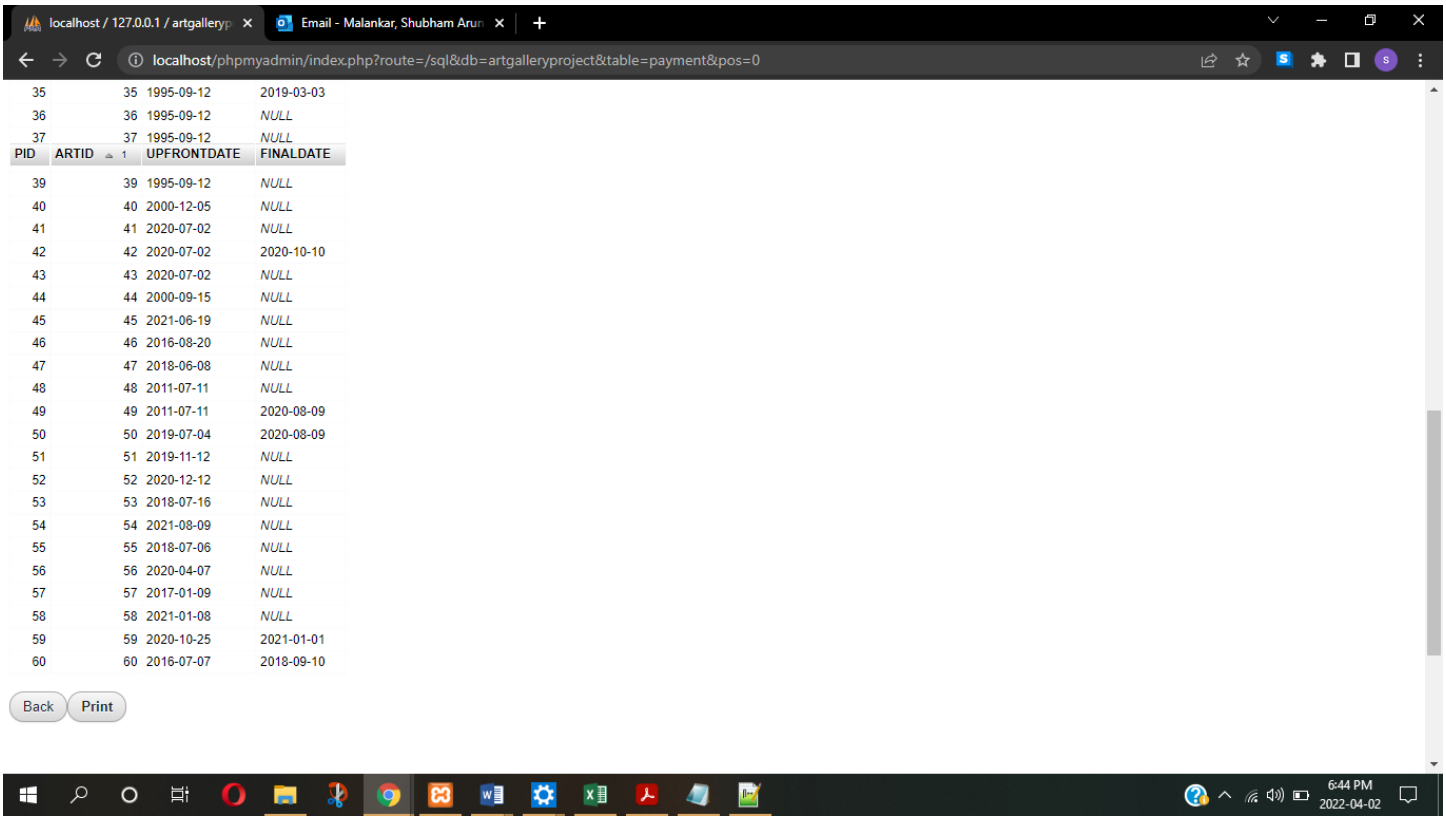
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Email - Malankar, Shubham Arun
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35 35 1995-09-12 2019-03-03
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39 39 1995-09-12 NULL
40 40 2000-12-05 NULL
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59 59 2020-10-25 2021-01-01
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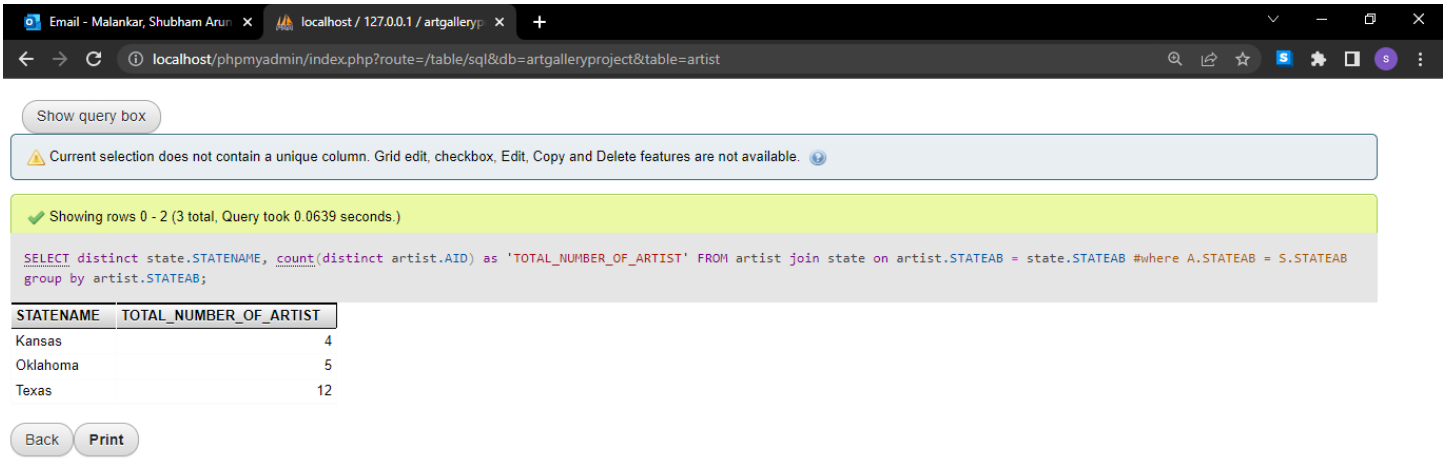
PART 2 : -

Q1 Retrieve the total number of artists in each state along with the state name (not the state abbreviation).

Ans – SELECT distinct S.STATENAME, count(distinct A.AID) as 'TOTAL_NUMBER_OF_ARTIST' FROM artist JOIN state on artist.STATEAB = state.STATEAB group by A.STATEAB



Q2 Retrieve the artist's name, date of birth, and the title of artwork that was sold on August 8, 2021.

Ans – SELECT artist.NAME, artist.BIRTHDATE, artwork.TITLE FROM artwork join artist WHERE artwork.ACQUISITIONDATE = '2021-08-08'

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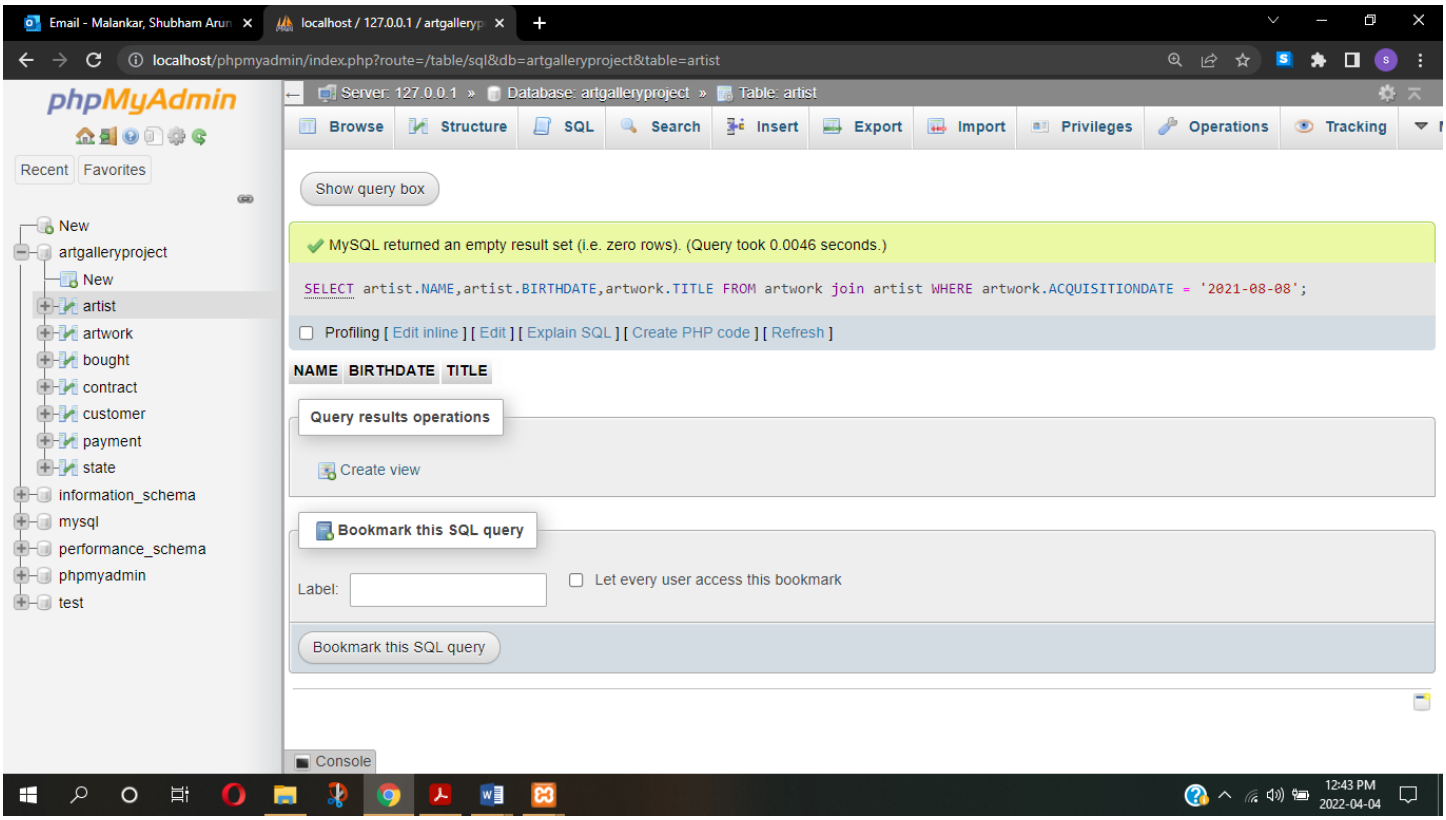

Q3 Retrieve the names and address (Street, City, State Abbreviation, and Zipcode) of all the artists in our database whose first name start with a vowel.

Ans – SELECT artist.NAME,artist.STREET,artist.CITY,artist.STATEAB,artist.ZIPCODE from artist where artist.NAME like 'A%' or artist.NAME like 'E%' or artist.NAME like 'I%' or artist.NAME like 'O%' or artist.NAME like 'U%' ORDER BY `artist`.`NAME` ASC

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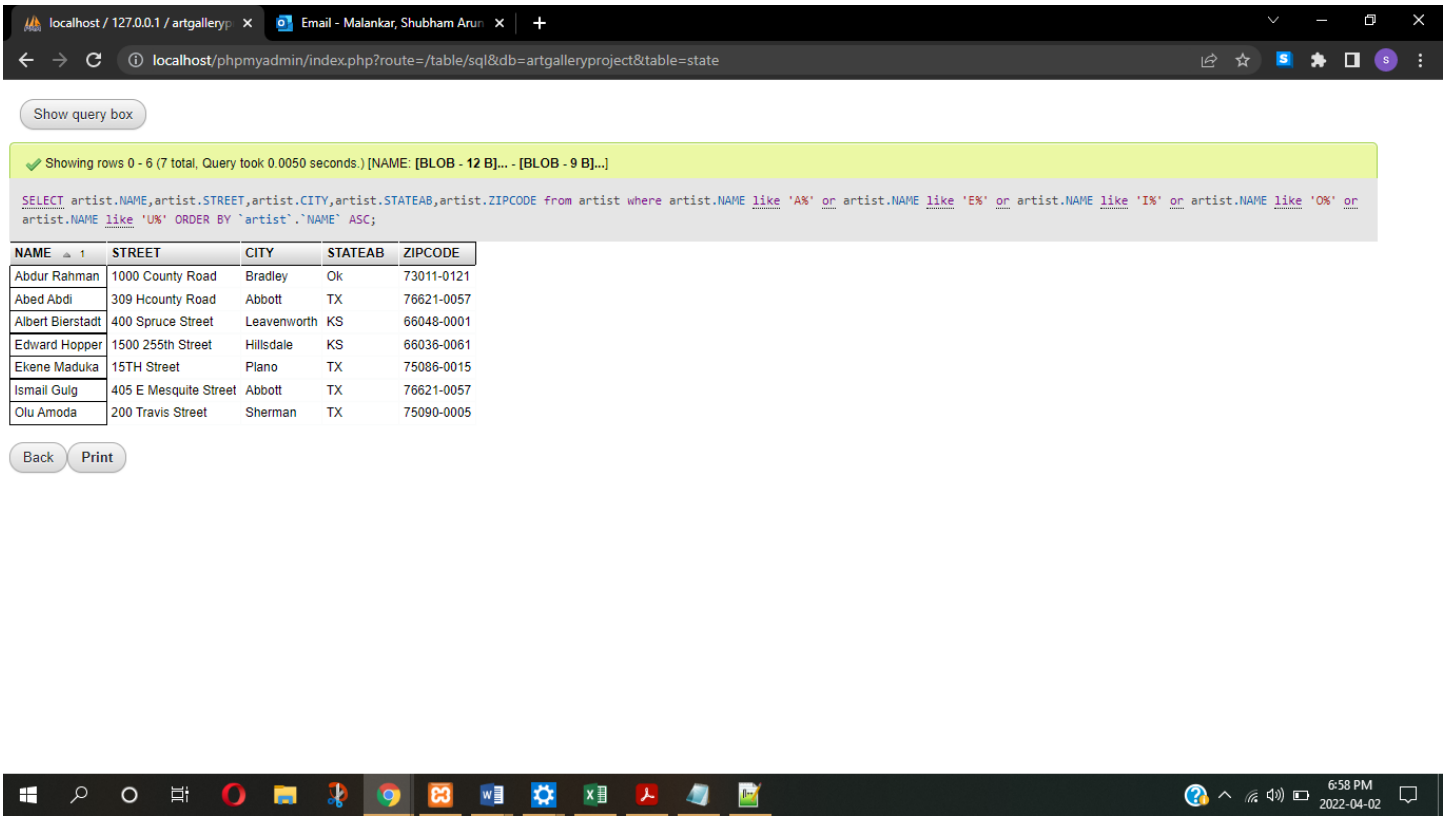

Q4 Retrieve the names of the artists, list of their artwork (title) when the acquisition price is higher than $20,000 and less than $40,000. Order the result by the price of the artworks.

Ans – SELECT R.NAME, W.TITLE, W.PRICE from artist R, artwork W where w.PRICE > 20000 and w.PRICE < 40000 and R.AID = W.AID ORDER BY `W`.`PRICE` DESC

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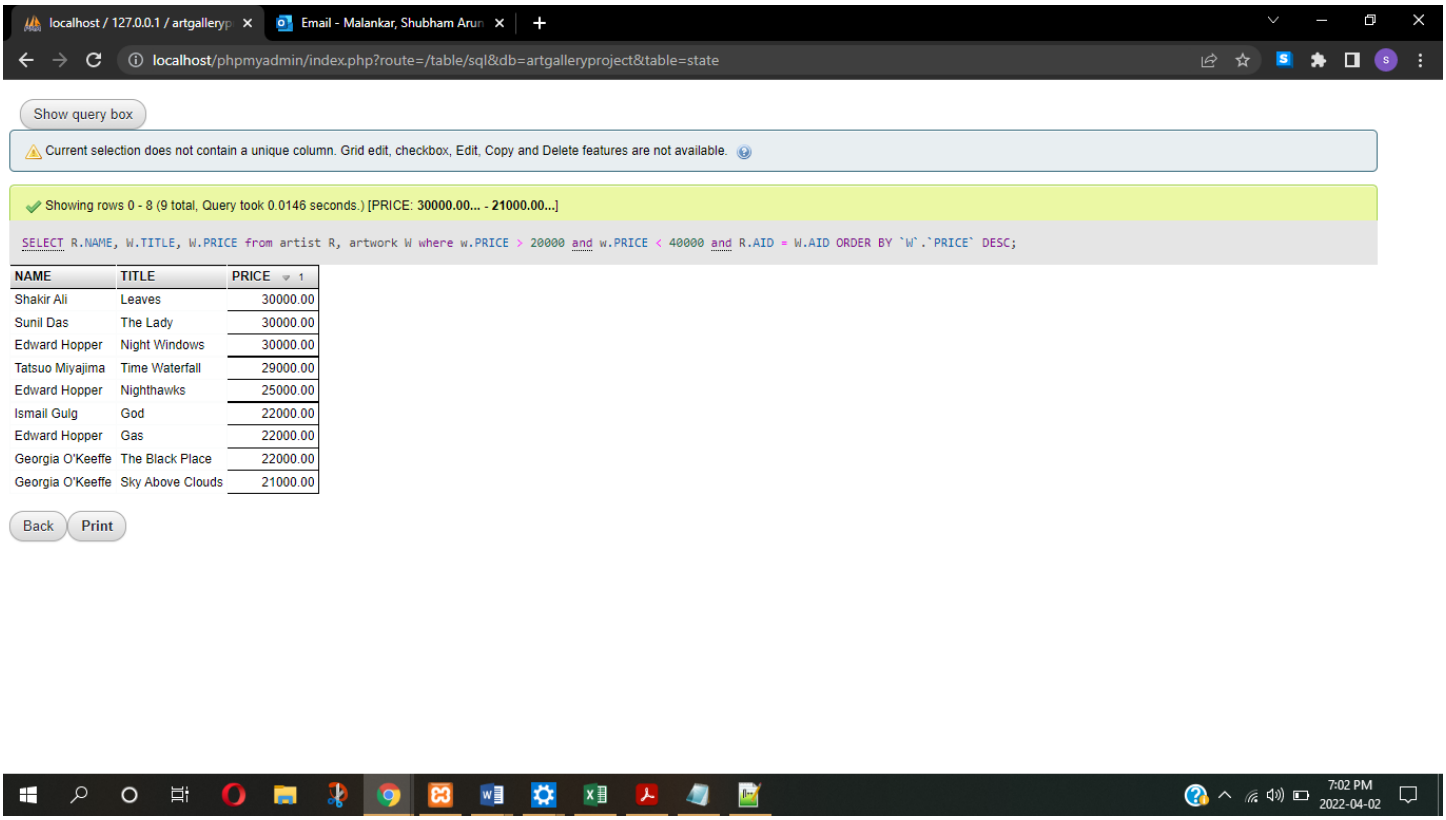

Q5 Retrieve the titles, acquisition price, and the artists names of the 10 least expensive artworks in the gallery.

Ans – SELECT W.TITLE, R.NAME as ARTISTNAME, W.PRICE from artist R, artwork W where R.AID = W.AID ORDER BY `W`.`PRICE` ASC limit 10;

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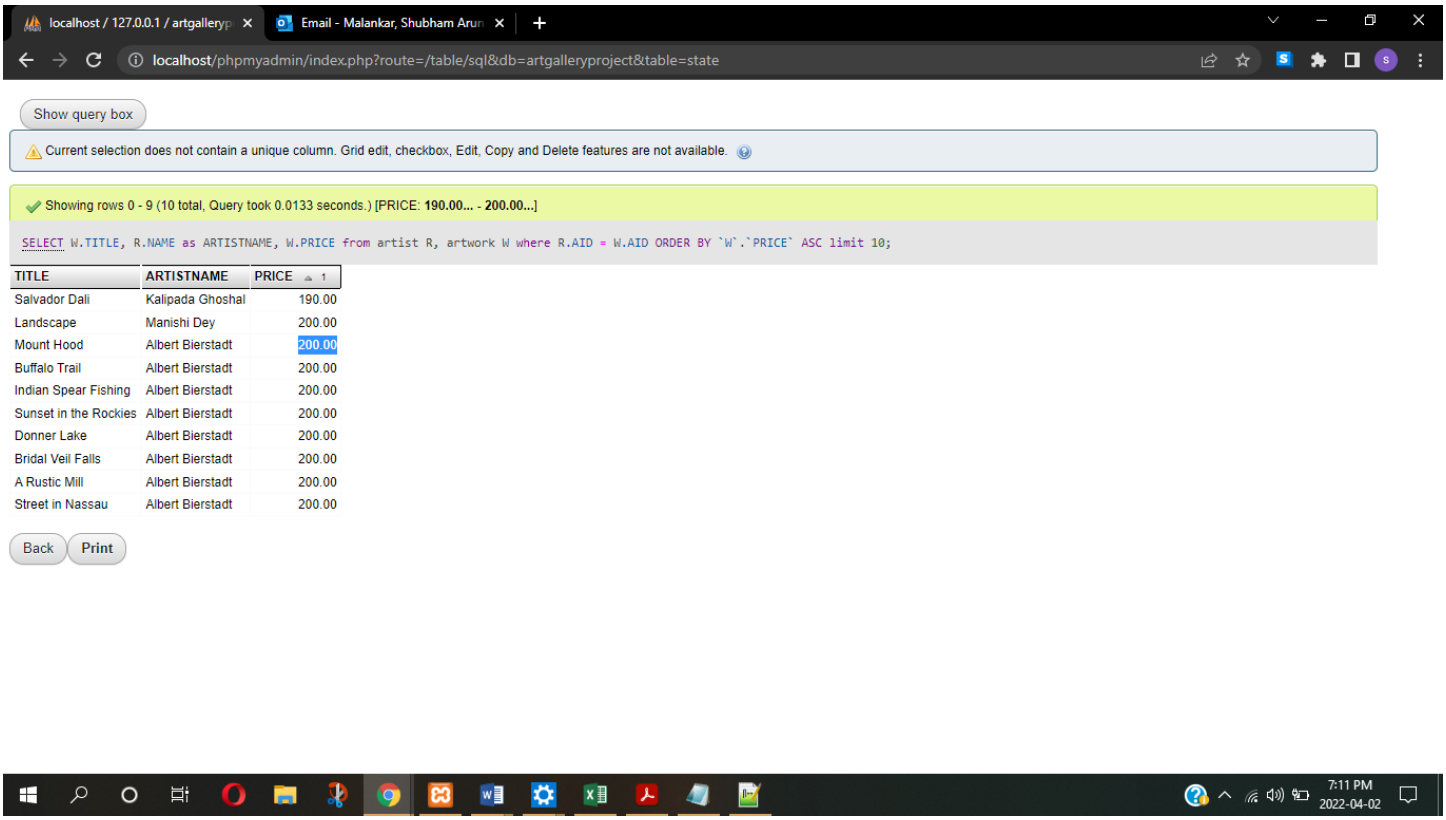

Q6 Retrieve the artist name, artwork title, and the acquisition price for all artworks of artists who hale from Kansas and has an artwork whose acquisition price is between $8,000.00 and $15,000.00. List the result in a descending order by the price of the artwork. The price should be stated with $, appropriate commas, and up to 2 decimal places. (Example: $12,000.00)

Ans – SELECT R.NAME, W.TITLE, CONCAT('$',FORMAT(W.PRICE,2)) as ACQUISITIONPRICE from artist R, artwork W where R.AID = W.AID and R.STATEAB = 'KS' and W.PRICE >= '8000' and W.PRICE <= '15000' ORDER BY `W`.`PRICE` DESC;

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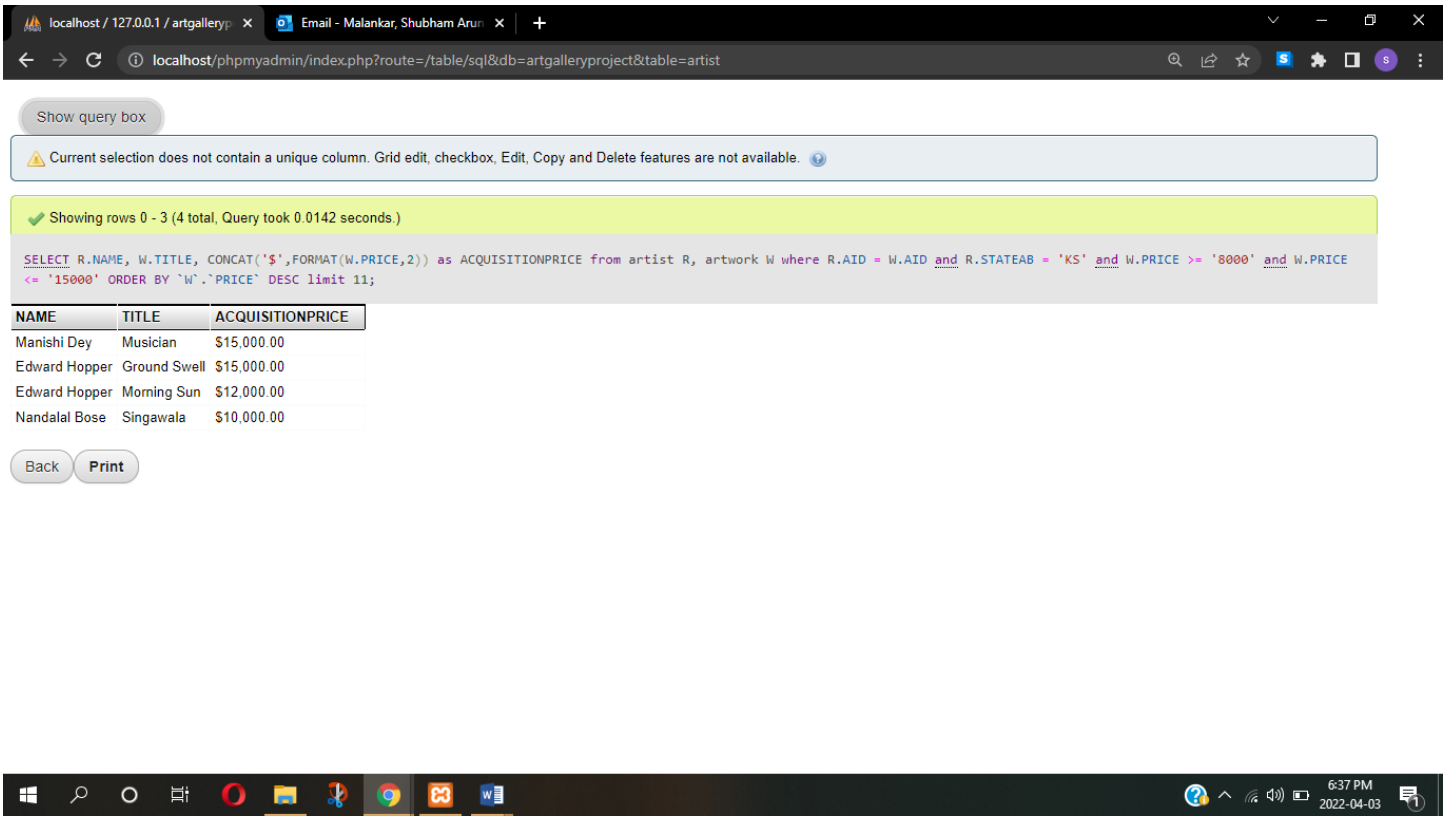

Q7 Retrieve a list of state names, artist names from each of the states, and the total number of artworks by each artist to have been listed in the Art Gallery. Order the list by the number of their artworks. Exclude Texas artists from the list.

Ans - SELECT s.STATENAME, R.NAME as ARTISTNAME, COUNT(distinct W.ARTID) as NumberOfArtwork from artist R, artwork W, state S where R.AID = W.AID and S.STATENAME != 'Texas' and S.STATEAB = R.STATEAB group by R.NAME ORDER BY NumberOfArtwork DESC;

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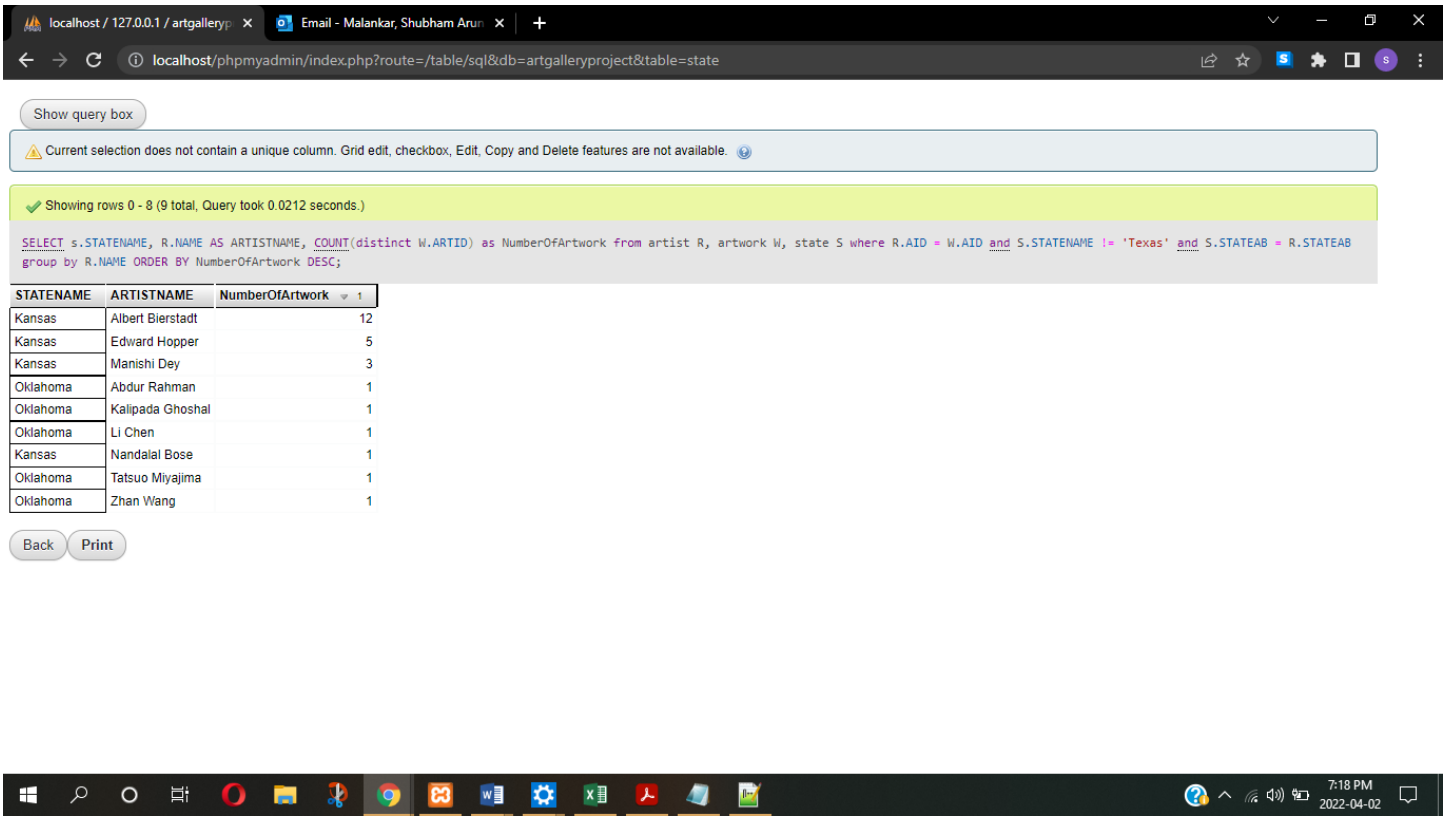

Q8 Retrieve, the minimum, maximum, average, and total price of listed artwork of the artists from the state of Kansas. The price should be stated with $, appropriate commas, and up to 2 decimal places. (Example: $12,000.00)

Ans - SELECT CONCAT('$', FORMAT(Min(W.Price),2)) as MINIMUMPRICE ,CONCAT('$', FORMAT(Max(W.Price),2)) as MAXIMUMPRICE, CONCAT('$', FORMAT(AVG(W.Price),2)) as AVERAGEPRICE, CONCAT('$', FORMAT(SUM(W.Price),2) as TOTALPRICE from artist R, artwork W, state S where R.AID = W.AID and S.STATENAME = 'Kansas' and S.STATEAB = R.STATEAB;

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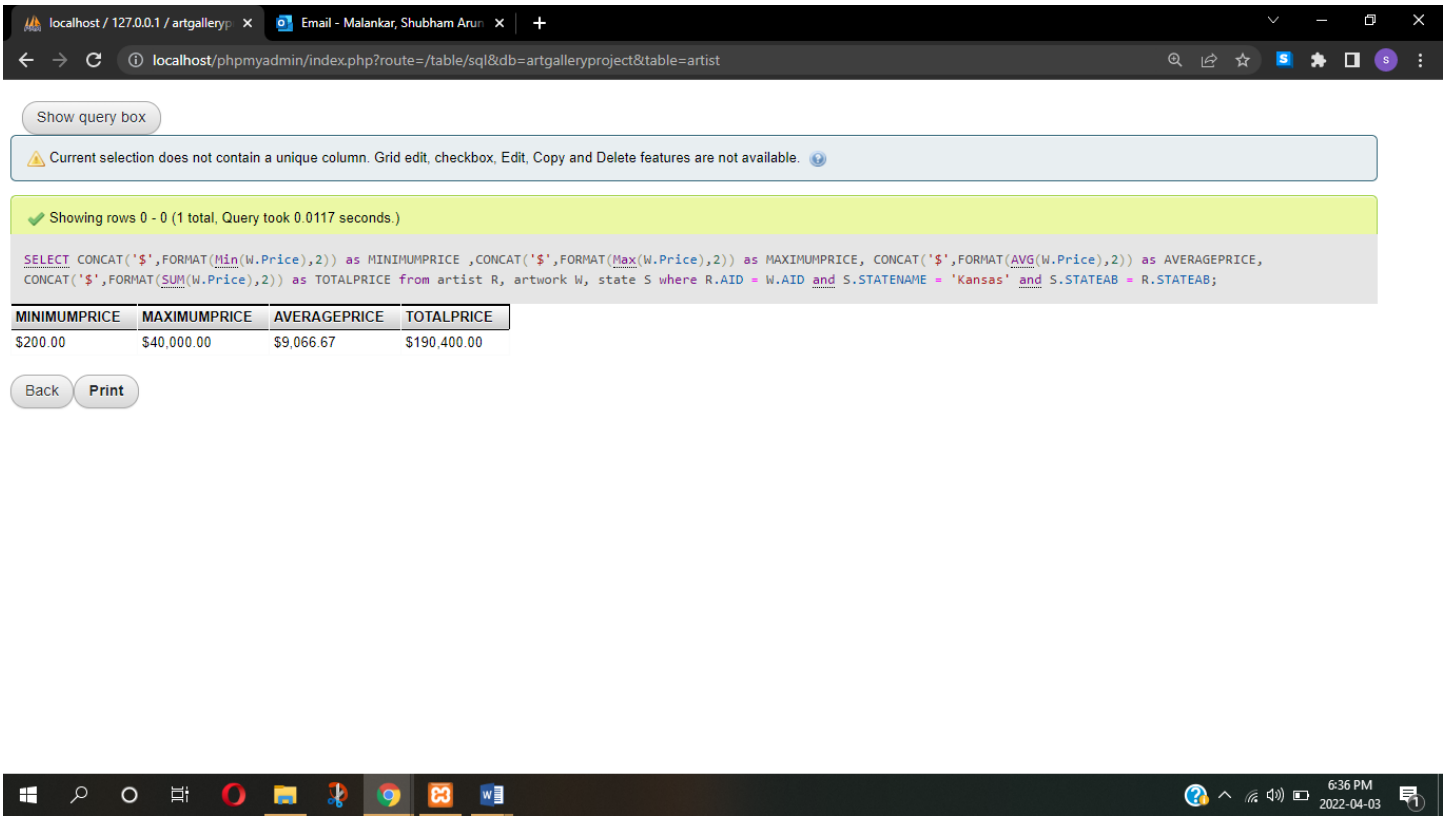

Q9 Retrieve the states, the total number of customers from each state. (Your query will be considered incorrect if it returns the state abbreviation instead of the full state name)

Ans – SELECT distinct(s.STATENAME), COUNT(C.CID) as TOTALCUSTOMER from customer C, state S where C.STATEAB = S.STATEAB group by S.STATEAB;

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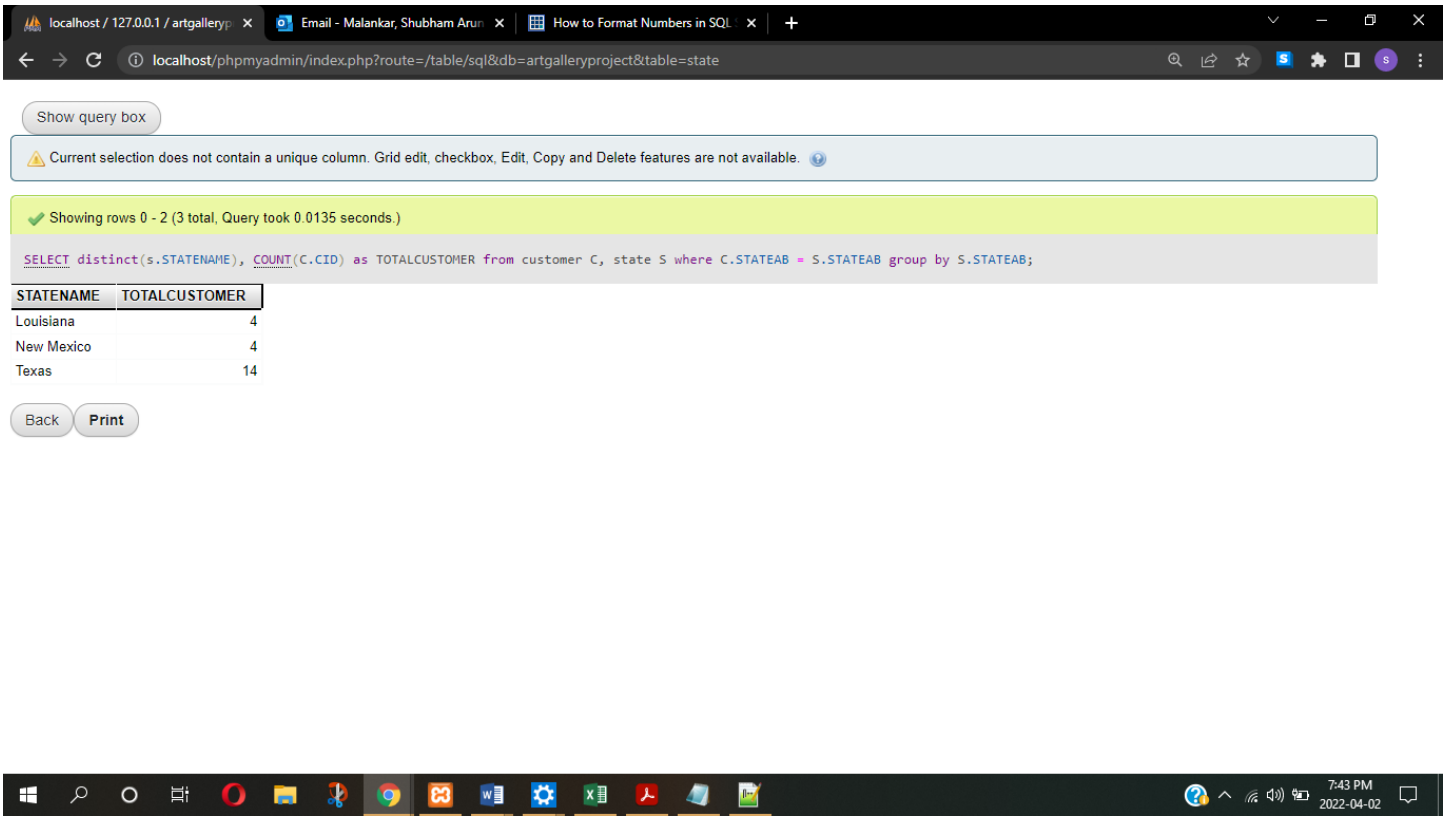

Q10 Retrieve the artist name, artwork title and the acquisition price of the most expensive artwork acquired by the gallery so far.

Ans – select A.NAME as ARTISTNAME, R.TITLE, R.PRICE FROM artist A, artwork R WHERE A.AID = R.AID ORDER BY R.PRICE DESC LIMIT 1;

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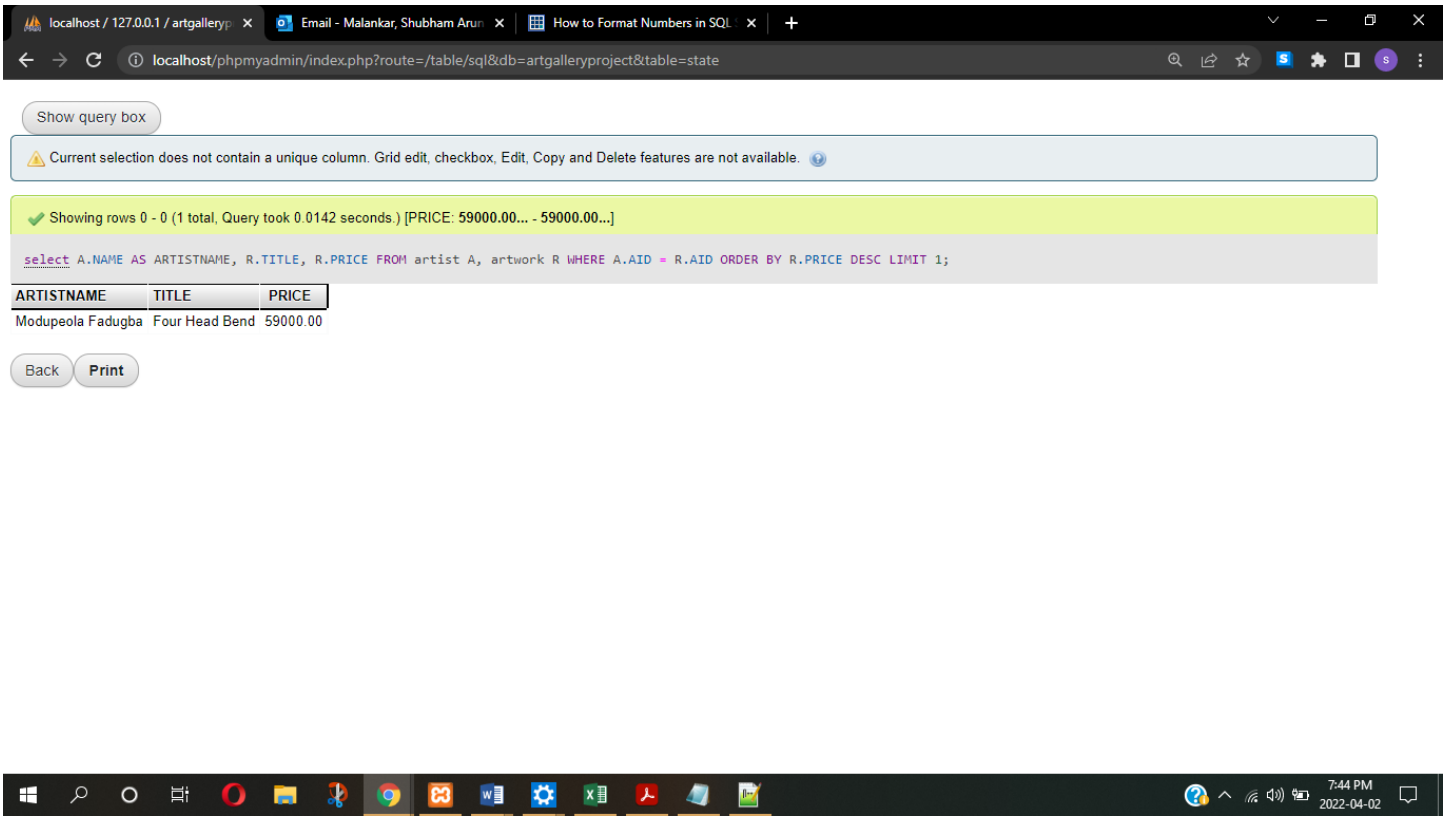
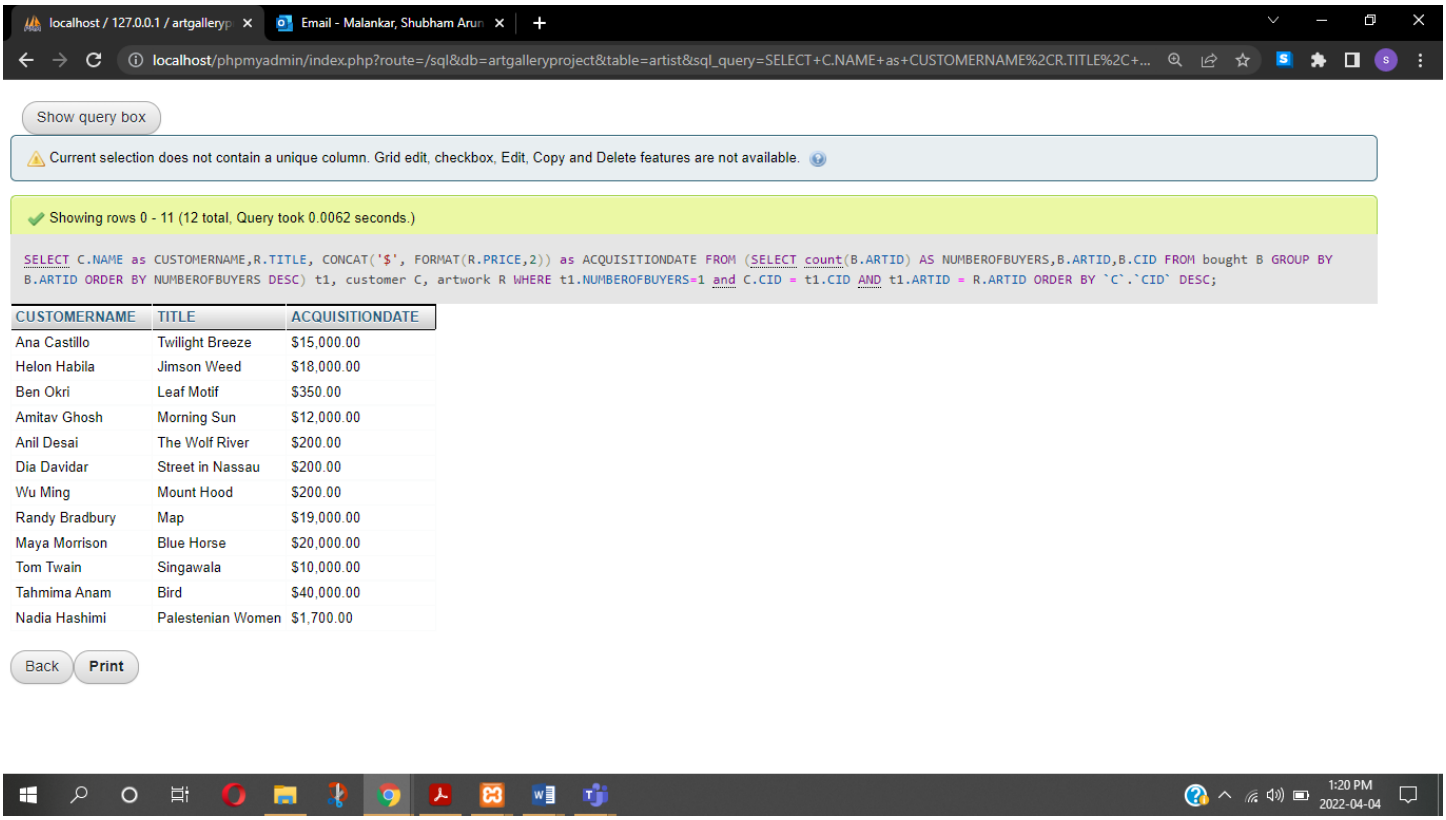


Q11 Retrieve a list of records that each consists of the customer's name, and the title of the artwork they bought, and their price for all the artwork that was bought by only one customer. How will you verify that the results of your query are correct?

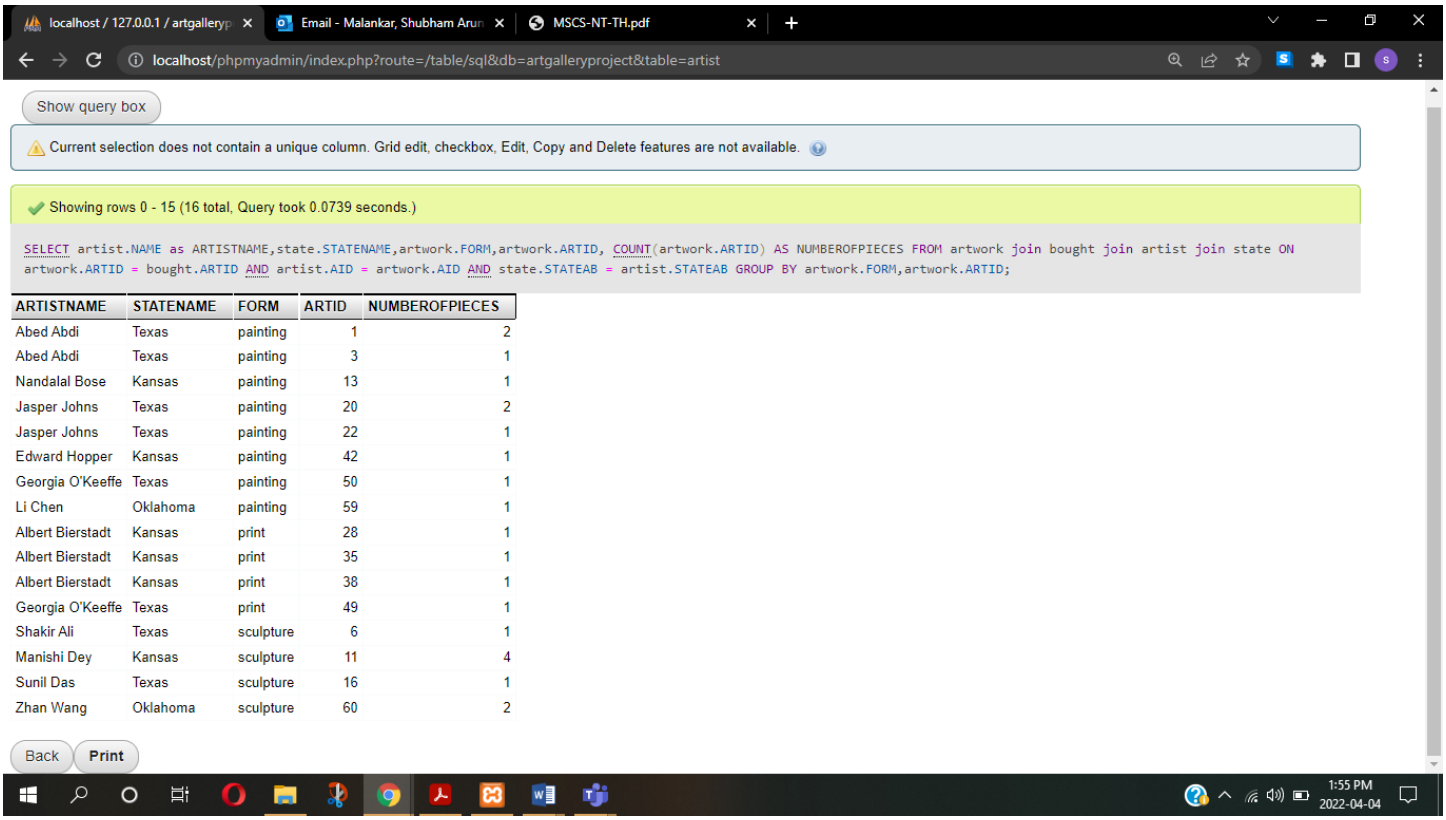
Ans – SELECT C.NAME as CUSTOMERNAME,R.TITLE, CONCAT('$', FORMAT(R.PRICE,2)) as ACQUISITIONDATE FROM (SELECT count(B.ARTID) AS NUMBEROFBUYERS,B.ARTID,B.CID FROM bought B GROUP BY B.ARTID ORDER BY NUMBEROFBUYERS DESC) t1, customer C, artwork R WHERE t1.NUMBEROFBUYERS=1 and C.CID = t1.CID AND t1.ARTID = R.ARTID ORDER BY `C`.`CID` DESC



Verify the result - I have sorted out the records of customer who bought only one painting using the subquery and GROUPED the customers according to it. Further we joined artwork, customer tables.

Q12 Retrieve a list of records that is comprised of the state name, artist name, artform, and the number of pieces sold by the type of artform. Sort the list of records by the State name, artist's name, artform, and the number of pieces sold. How can you verify that your query returns correct answers?

Ans – SELECT artist.NAME as ARTISTNAME,state.STATENAME,artwork.FORM,artwork.ARTID, COUNT(artwork.ARTID) AS NUMBEROFPIECES FROM artwork join bought join artist join state ON artwork.ARTID = bought.ARTID AND artist.AID = artwork.AID AND state.STATEAB = artist.STATEAB GROUP BY artwork.FORM,artwork.ARTID



Explanation – here we follow the reverse approach,

1. We first find the number pieces sold with respect to artform

2. We group them by artid.

3. once we have the artid we can easily find artist name and state name from artist and state tables respectively.

Q13 Retrieve a list of records that each consists of the customer's name, the state that hale from, and the title of the artwork they bought, for all the artwork that was bought by a group of two or more people.

Ans – SELECT B.ARTID,C.NAME as CUSTOMERNAME,S.STATENAME, R.TITLE from bought B, customer C, artwork R,state S WHERE B.CID = C.CID AND B.ARTID = R.ARTID AND S.STATEAB = C.STATEAB AND B.ARTID IN (SELECT t1.ARTID FROM (SELECT count(B.ARTID) AS NUMBEROFBUYERS,B.ARTID FROM bought B GROUP BY B.ARTID ORDER BY NUMBEROFBUYERS DESC) t1 where t1.NUMBEROFBUYERS > 1);

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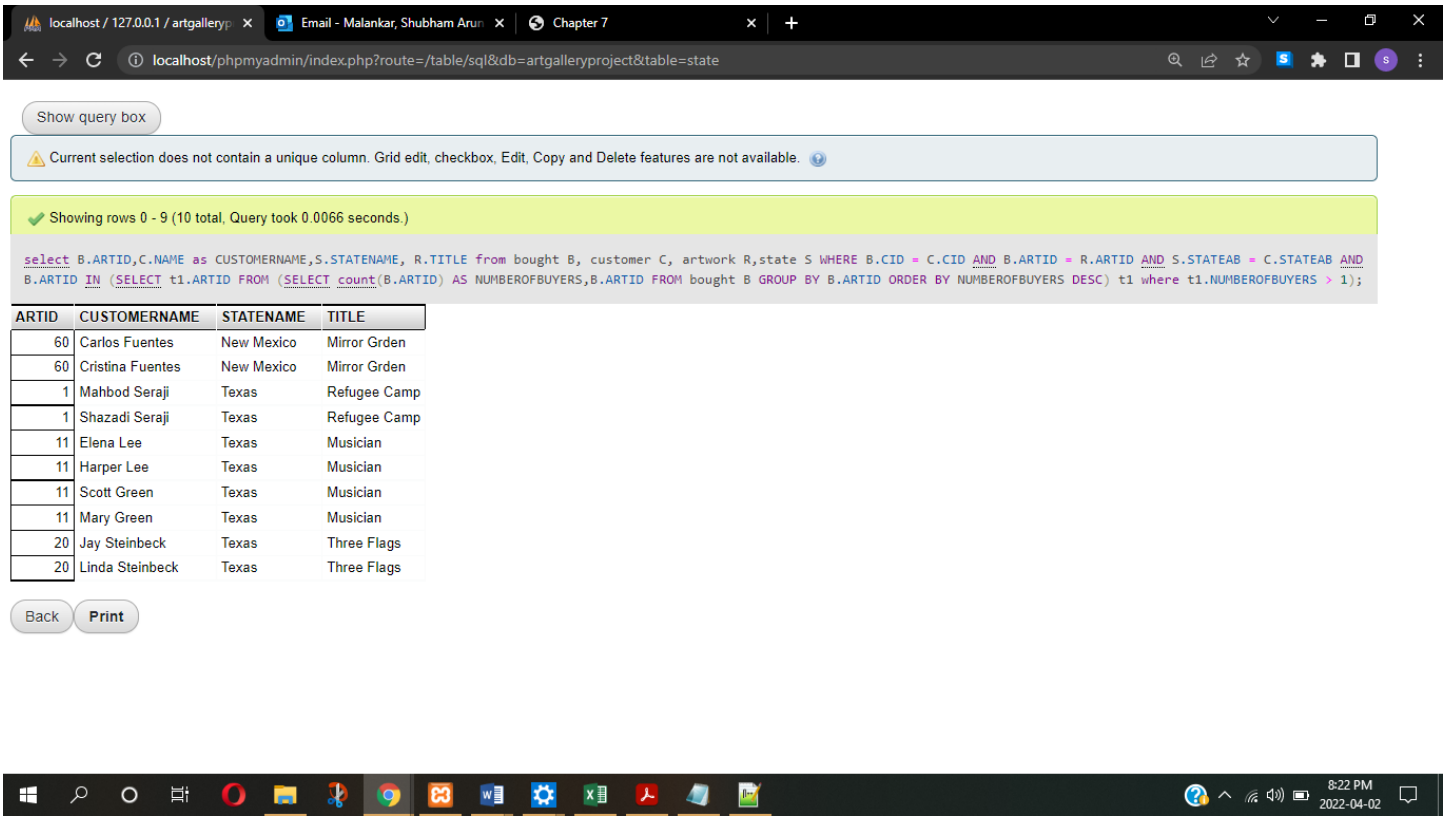
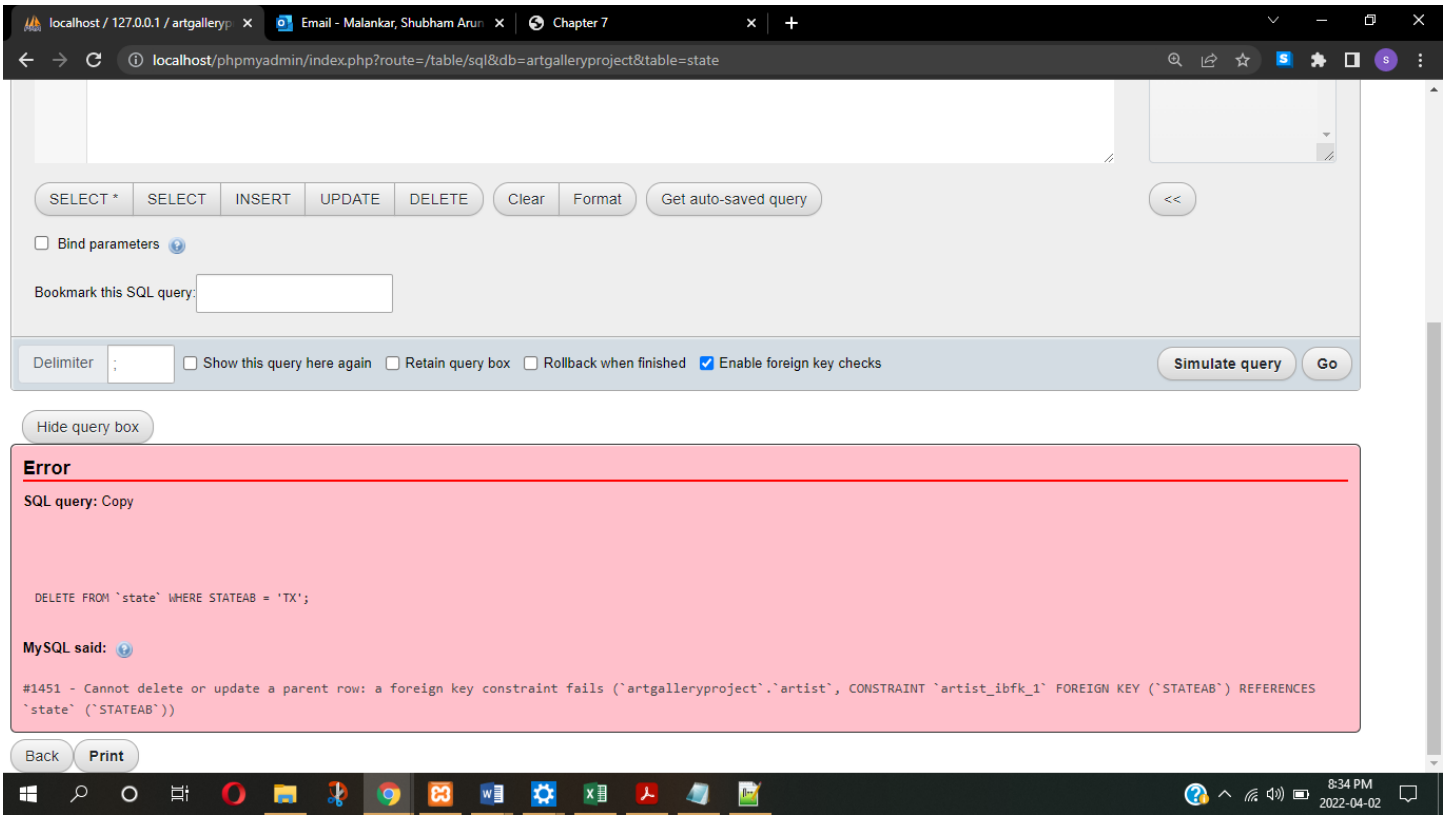


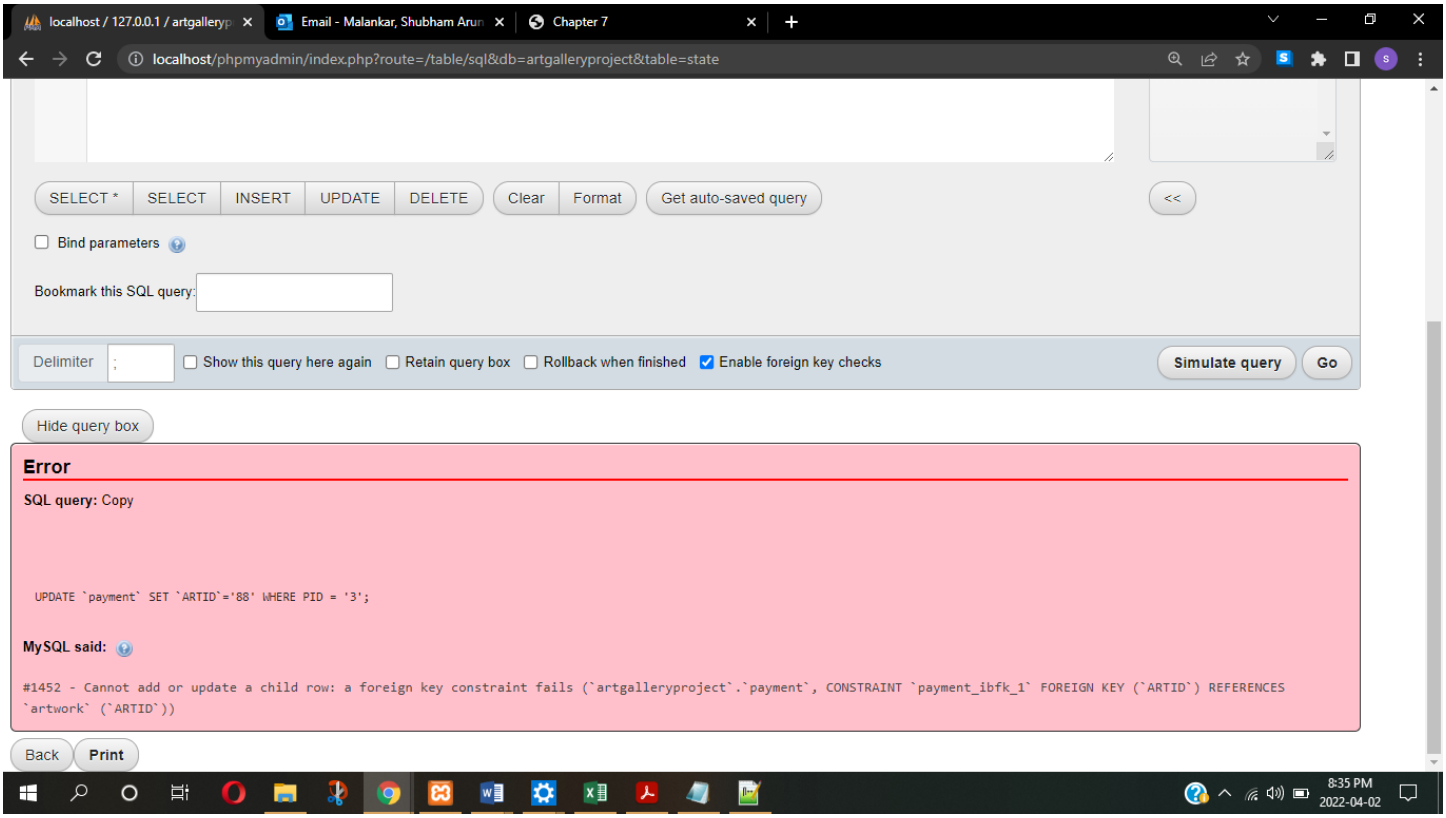
Q14 Execute a command to delete a record that violates a referential integrity constraint. State the message produced by the DBMS.

Ans – DELETE FROM `state` WHERE STATEAB = 'TX'



Q15 Execute an update command for PAYMENTS table that attempts to update a record and thereby violates the foreign key constraint. State the message produced by the DBMS.

Ans – UPDATE `payment` SET `ARTID`='88' WHERE PID = '3'



Q16 Execute 3 insert commands for artist table that attempt to insert records, such that the records violate the explicit schema-based constraints (Key, Entity Integrity, Referential Integrity constraints). Make each of the 3 records violate a different types of integrity constraint. Include the insert statements and the error messages produced.

Ans - Key integrity violation - INSERT INTO `artist`(`AID`, `NAME`, `BIRTHDATE`, `DEATHDATE`, `COMMISSION`, `STREET`, `CITY`, `STATEAB`, `ZIPCODE`) VALUES ('3','Shubham Malankar','1997-03-12','0000-00-00','20','444 Vasudev street','Arlington','Texas','76013-1454')

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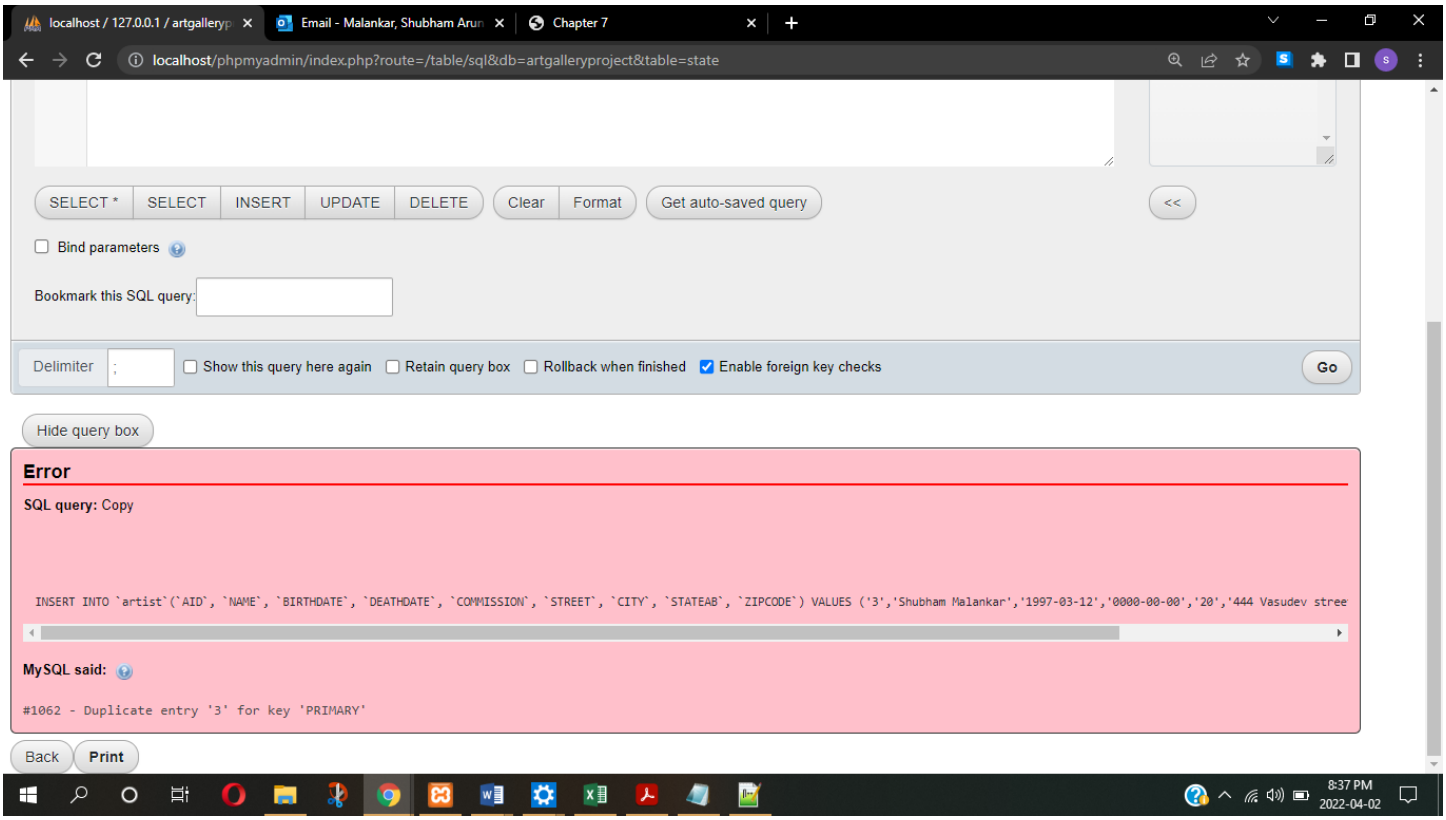
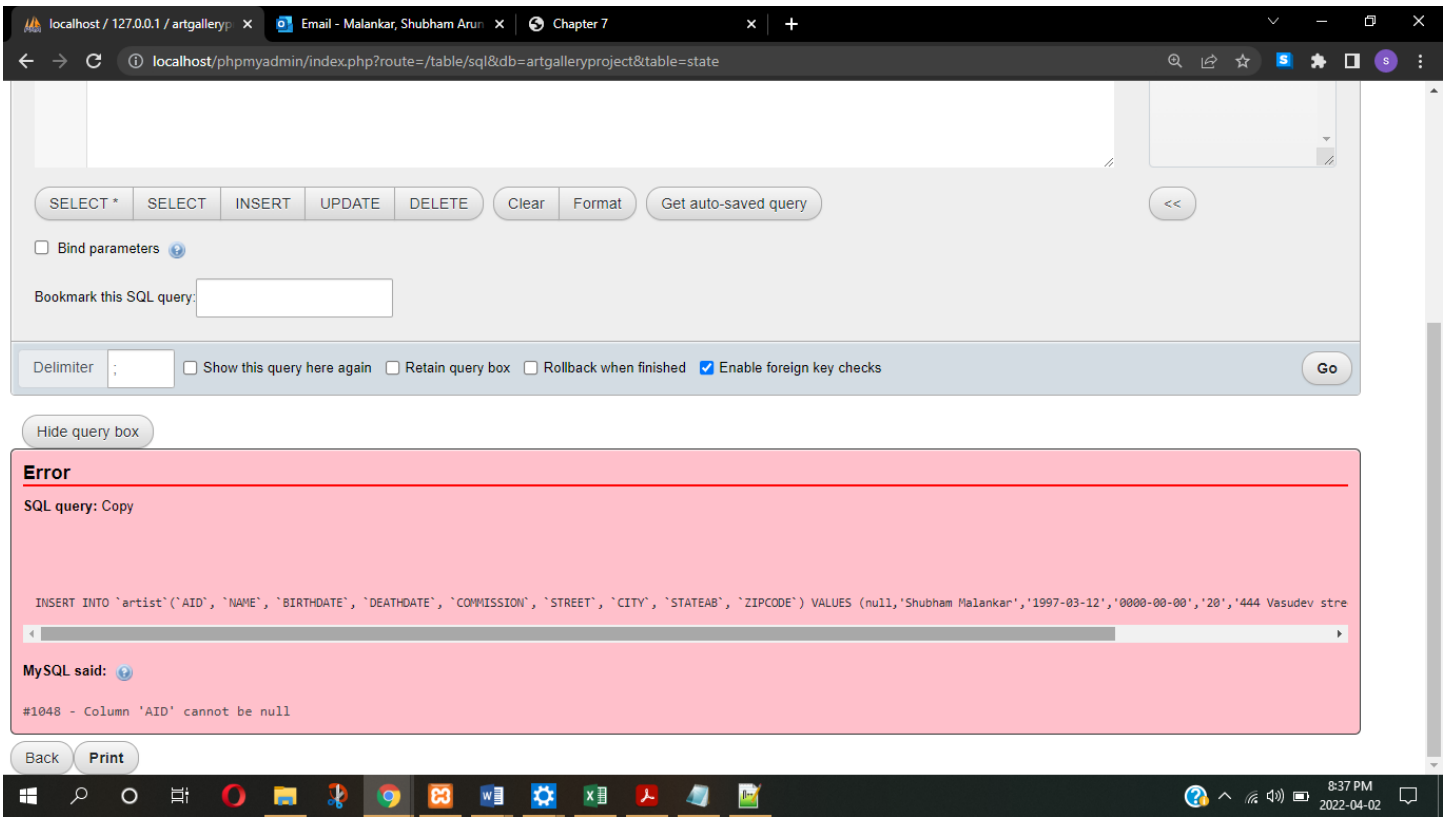


Entity integrity violation - INSERT INTO `artist`(`AID`, `NAME`, `BIRTHDATE`, `DEATHDATE`, `COMMISSION`, `STREET`, `CITY`, `STATEAB`, `ZIPCODE`) VALUES (null,'Shubham Malankar','1997-03-12','0000-00-00','20','444 Vasudev street','Arlington','Texas','76013-1454')



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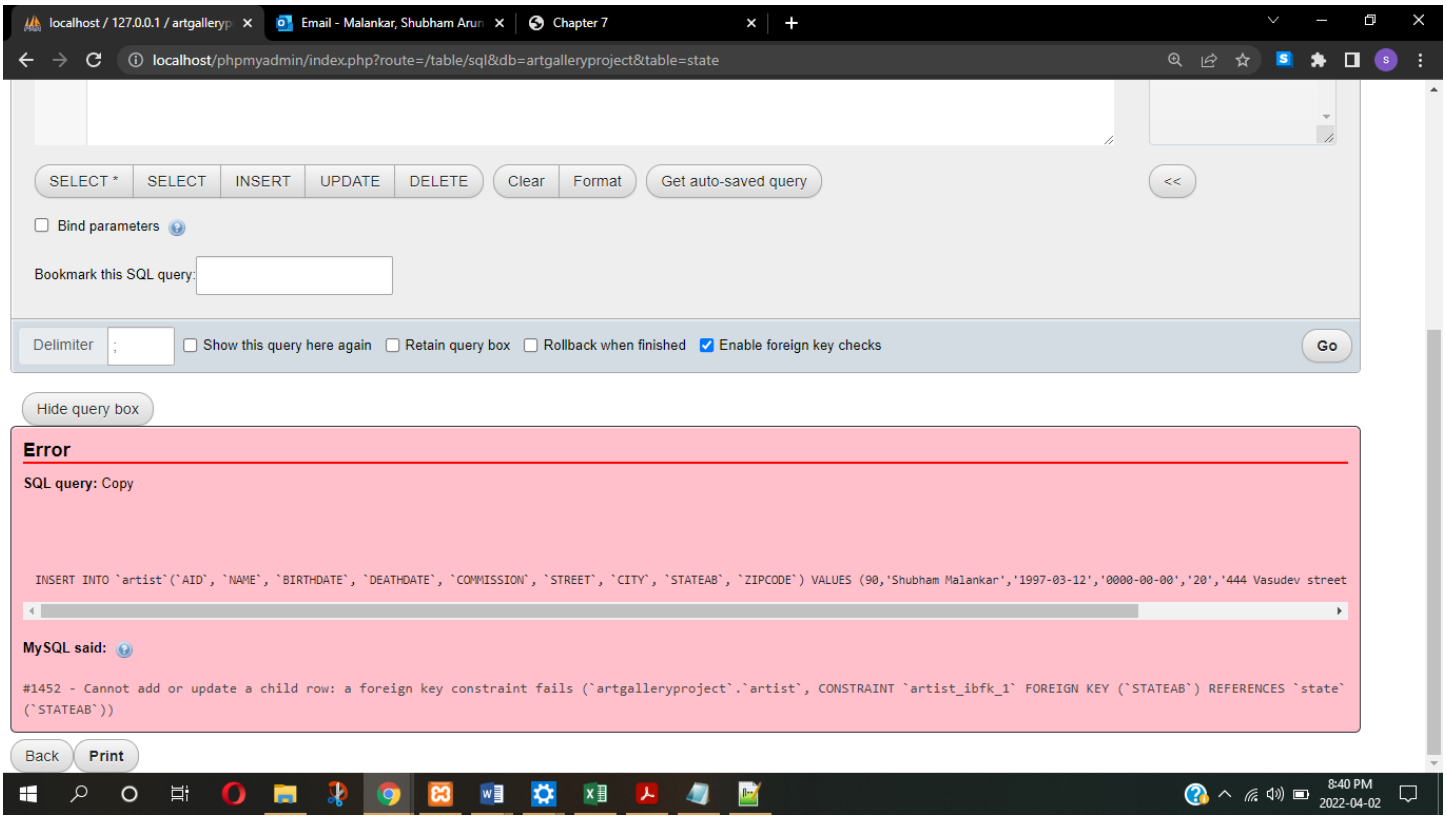
Referential integrity violation - INSERT INTO `artist`(`AID`, `NAME`, `BIRTHDATE`, `DEATHDATE`, `COMMISSION`, `STREET`, `CITY`, `STATEAB`, `ZIPCODE`) VALUES (90,'Shubham Malankar','1997-03-12','0000-00-00','20','444 Vasudev street','Arlington','OH','76013-1454')



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