

Artist Code	Artist Name	Artist State
20	Adrianna Dugget	Victoria
10	Dorette	Victoria
17	Duddy	Victoria
15	Maggi Aaronsohn	Western Australia
13	Monica	New South Wales
4	Rosalinda Zavattiero	Victoria

[4 marks]

(ii) List the artist code, artist full name, artwork number, artwork title, artist minimum payment, date submitted and the number of days the artwork was held by MAU for all artworks that have been returned to the artists within 120 days of the work being submitted and were never sent to any gallery for display. Please note that the date the artwork is returned should not be included in the calculating Number of Days with MAU.

The output must be displayed by artist code in ascending format. For those artists with more than one artwork in the output, the artwork held for the longest period of time by MAU should be displayed first.

The column headings in your output should be renamed as Artist Code, Artist Name, Artwork No., Artwork Title, Artwork Min. Payment and Number of Days the artwork with MAU.

Your output must have the form shown below (only some rows shown). Your actual data may clearly be different from the data shown below.

Artist Code	Artist Name	Artwork No.	Artwork Title	Artwork Min. Payment	Number of Days with MAU
7	Weston Stearndale	2	Saint Francis of Assisi	\$34536.90	59
... partial rows shown					

[6 marks]

(iii) List the artist code, artwork no, artwork title, gallery id, gallery name, display start date and number of days the artwork was on display for all MAU artworks that have completed their display and were on display in the gallery for less than 13 days.

The output must be ordered by artwork - for any given artwork the shortest period of display should be shown first. Where an artwork has been displayed in different galleries for the same period this should be ordered by gallery id and display start date.

The column headings in your output should be renamed as Artist Code, Artwork No.,

Artwork Title, Gallery ID, Gallery Name, Display Start Date and Number of Days in Gallery.

Your output must have the form shown below (only some rows shown). Your actual data may clearly be different from the data shown below.

Artist Code	Artwork No.	Artwork Title	Gallery ID	Gallery Name	Display Start Date	Number of Days in Gallery
1	1	The Creation of Adam	2	Artology	Fri 14 June 2019	6
1	2	Luncheon of the Boating Party	5	Art Temple	Sun 05 July 2020	5
1	2	Luncheon of the Boating Party	5	Art Temple	Tue 21 July 2020	5
2	1	The Starry Night	2	Artology	Fri 14 June 2019	6
2	1	The Starry Night	5	Art Temple	Thu 07 November 2019	12
3	1	Saint Francis of Assisi	2	Artology	Fri 14 June 2019	6
... partial rows shown						

[10 marks]

(iv) List the artist code, artwork number, artwork title and number of movements for those artworks which have moved to/from any gallery, i.e., in transit less than the average number of movements to/from any gallery by an artwork.

The output must be displayed in ascending format of number of movements. For those artworks with the same number of movements, display them by the artist code and artwork number in ascending format.

The column headings in your output should be renamed as Artist Code, Artwork No., Artwork Title and Number of Movements.

Your output must have the form shown below (only some rows shown). Your actual data may clearly be different from the data shown below.

Artist Code	Artwork No.	Artwork Title	Number of Movements
1	1	The Creation of Adam	1
3	1	Saint Francis of Assisi	1
4	1	The Last Supper	1
5	2	The Sojourn	1
19	1	The Astronomer	1
5	1	The Lady of Shalott	2
6	2	Cafe Terrace at Night	2
... partial rows shown			

[10 marks]

(v) MAU would like the ability to quickly find out an estimated minimum selling price for all the unsold artworks for the five galleries (gallery ids 1 to 5) they currently deal with so they can prioritise their return in the case of competing gallery display requests.

For this display, list the artist code, artwork title and for each gallery, the minimum selling price for the artwork title for the artist that MAU should be prepared to sell the artwork for, taking into account, the payment to the gallery as commission, payment to MAU as

commission and the minimum payment to the artist requirements for all the unsold artworks. The estimated minimum selling price should be rounded up to the nearest dollar.

As an example, an artwork has been provided by an artist with an indicated minimum payment to the artist of \$1400. This artwork is to be sold by a gallery with a 10% commission. An estimate of the minimum selling price must include the minimum payment to the artist, the gallery commission and the MAU commission (20%). Here since 30% is commissions, the \$1400 must represent 70% of the sold price, so the estimated minimum selling price would need to be \$2000 (artist payment \$1400, gallery commission \$200 and MAU commission \$400).

The output must be displayed in ascending format by artist code and where there is more than one artwork for an artist, display the result by artwork title in ascending format.

The column headings in your output should be renamed as Artist Code, Artwork Title and Min. Sale Price Est. (Gallery 1), Min. Sale Price Est. (Gallery 2), Min. Sale Price Est. (Gallery 3), Min. Sale Price Est. (Gallery 4) and Min. Sale Price Est. (Gallery 5).

Your output must have the form shown below (only some rows shown). Your actual data may clearly be different from the data shown below.

ARTIST_CODE	ARTWORK_TITLE	Min. Sale Price Est. (Gallery 1)	Min. Sale Price Est. (Gallery 2)	Min. Sale Price Est. (Gallery 3)	Min. Sale Price Est. (Gallery 4)	Min. Sale Price Est. (Gallery 5)
1	Luncheon of the Boating Party	\$19490	\$20804	\$20000	\$20597	\$20864
2	The Starry Night	\$74463	\$79484	\$76414	\$78694	\$79713
5	The Lady of Shalott	\$60484	\$64563	\$62069	\$63921	\$64749
5	The Sojourn	\$62770	\$67003	\$64414	\$66336	\$67195
... partial rows shown						

[14 marks]

(vi) For each artwork sold, list the artist code, artist full name, artwork title, the gallery id for the gallery in which the work was sold, the sale price and the percentage that the artwork sold above the estimated minimum selling price. The estimated minimum selling price includes the commission payment to the gallery where it was sold, the commission payment to MAU and the minimum payment to the artist - see example part (v).

As an example, assume an artwork which had an estimated minimum selling price of \$2000 sold for \$2500 - this would represent a sale at 25% above the minimum selling price.

The *last row of the output* should show the average (in the sixth column) of the percentage sold above the minimum selling price for all the sales.

The column headings in your output should be renamed as Artist Code, Artist Full Name, Artist Title, Gallery ID, Sale Price and % Sold Above Min. Sell Price.

Your output must have the form shown below (some rows have been blurred). Your actual data will clearly be different from the data shown below.

Artist Code	Artist Full Name	Artwork Title	Gallery ID	Sale Price	% Sold Above Min. Sell Price
1	Martainn Jenteau	The Creation of Adam	2	\$49000	13.8%
19	Patten Martyn	The Astronomer	5	\$60000	22.6%
				AVERAGE:	17.3%

[16 marks]

TASK 3: Design Modifications (20 marks):

Your answers for these tasks must be placed in the supplied SQL Script

Q3-mau-mods.sql

These tasks should be attempted *only* after task 1 and task 2 have been successfully completed. They are to be completed on the "live" database ie. the database with the data loaded from your previous work.

In completing this task, you **must**:

- if you need to add new columns, tables or related constraints, follow the naming conventions used in the data models and schema file which have been provided,
- provide column comments for any new columns that you add, and
- correctly manage any transactions used as part of your solution

(i) MAU would like to be able to easily determine the total number of times each customer has bought an artwork. Add a new attribute which will record this requirement.

Based on the data which is currently stored in the system, this attribute must be initialised to the correct current number of times each customer has bought an artwork.

[2 marks]

(ii) For each artwork that has been sold, MAU would like to record i) the commission in dollars that should be paid to them ii) the commission in dollars that should be paid to the gallery and iii) the actual payment in dollars that should be made to the artist.

Based on the data which is currently stored in the system, change the database to meet this requirement such that these individual amounts are now also readily available in the database for all sales which have taken place. You may assume that the current percentage commissions were the same when the artwork was sold.

[6 marks]

(iii) MAU have observed that Galleries often display several items from the MAU stock with the same starting date and for the same period. They in effect create a Gallery Exhibition themed around a particular artist, media or other theme. To better record, and publicise, these exhibitions MAU would like to record a numeric exhibition code as an identifier, the name for the exhibition, the theme of the exhibition (A: artist, M: media, or O: other), the details of the artworks which are displayed and the total number of artworks which make up the exhibition. An exhibition must contain at least one artwork.

Based on the data that is currently stored in the system, change the database to meet this requirement. Add an exhibition themed around a particular artist for one of your galleries using the artworks you have on display from Q1 (a). You may hardcode the gallery id, artist code and display start and end dates.

[12 marks]

SUBMISSION REQUIREMENTS

Due Date: Friday 6th November 2020 at 5 PM (Week 12)

*Please note, if you need to resubmit, you **cannot** depend on your tutors' availability, for this reason, please be **VERY CAREFUL** with your submission. It is strongly recommended that you submit several hours before this time to avoid such issues.*

For this assignment there are four files you are **required** to submit:

- Q1a-mau-insert.sql
- Q1b-mau-dm.sql
- Q2-mau-queries.sql
- Q3-mau-mods.sql

If you need to make any comments to your marker/tutor please place them at the head of each of your solution scripts in the "Comments for your marker:" section.

Do not zip these files into one zip archive, submit four independent SQL scripts. The individual files must also have been pushed to the FIT GitLab server with an appropriate history as you developed your solutions.


Late submission will incur penalties at the rate of -5 mark for every 12 hours the submission is late.

Please note we **cannot mark any work on the GitLab Server**, you need to ensure that you submit correctly via Moodle since it is only in this process that you complete the required student declaration without which work **cannot be assessed**.

It is your responsibility to ENSURE that the files you submit are the correct files - we strongly recommend after uploading a submission, and prior to actually submitting, that you download the submission and double-check its contents.

Your assignment **MUST** show a status of "Submitted for grading" before it will be marked.

Submission status

Attempt number	This is attempt 1.
Submission status	Submitted for grading 
Grading status	Not graded

If your submission shows a status of "Draft (not submitted)" it will not be assessed and **will incur late penalties after the due date/time**.

Please **carefully** read the documentation under the "Assignment Submission" on the Moodle Assessments page which covers things such as extensions and resubmission.

CRITERIA FOR MARKING:

Submissions will be graded on:

- the correct application of relational database principles,
- the correct handling of transactions and the setting of appropriate transaction boundaries i.e. correct placement of commits, and
- the correct application of SQL statements and constructs to:
 - populate tables,
 - modify existing data in tables,
 - prepare reports by retrieving the required data in the required format, and
 - modify the "live" database structure to meet the expressed requirements (including appropriate use of constraints). In making these modifications there must be no loss of existing data or data integrity within the database.

Submissions will be grade penalised if they:

- contain SET ECHO ... or SPOOL commands
- make use of views
- use subqueries and SQL conditions unnecessarily,
- do not use to_char/to_date where appropriate in handling dates,
- do not have an appropriate development history on the FIT GitLab server for all source files (at least four pushes required).