

Unit 2 Creating Systems to Manage Information



**Level 3 National in
Information Technology**

January 2021

**Activity 5
Marking Guidance and
Marked Examples**

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Activity 5 – Evaluation (20 minutes)

How examiners approach marking this activity

- Read evaluation and determine **best fit** for band based on understanding of technical concepts and technical vocabulary
- Assign position in **that** mark band based on evaluative content

What should be evaluated:

- how well your database structure has minimised data duplication
- how well your database structure meets these requirements:
 - an exhibition runs for at least three days and no more than ten days
 - an exhibition is for a single artist and held in a single gallery
 - galleries are either combo or commercial

Part A evaluation should focus purely on showcasing the candidate's knowledge and understanding of normalisation and database structure in relation to their solution. There is no need to focus on the user as that is the focus of the Part B evaluation.

Band 1	Will be very superficial with major omissions
Band 2	Will discuss some aspects sensibly though may not fully explain them or relate them very well to their own solution.
Band 3	<p>Indicative content</p> <p><i>May not cover these exactly. This is a guide. However, should not be discussing anything other than the tables. Ignore query, report and testing comments.</i></p> <p>Will discuss data duplication in terms of:</p> <ul style="list-style-type: none">• repeated artist data• repeated gallery type data• repeated gallery data• removing repeated data into tables whilst maintaining the links <p>Needs to be clear they are talking about their solution and not just trying to slip technical vocabulary in. Need to see clear understanding.</p> <p>Meeting requirements</p> <p>Should also talk about their choice of validation and why it was the best.</p> <p>Should talk about their choice of validation for NumDays etc.</p> <p>Should talk about using a table lookup to validate the gallery types</p>

Example A

I have now completed my database for SmartArt. My database has minimised data duplication through normalising the data. Normalisation is the process of dividing the data into tables and creating relationships between them.

My database meets the requirements of Smart Art as I made sure of this through the validation process.

Comments
There is no markworthy content in this evaluation

Band	Mark
0	0

Example B

Overall my database has Been minimised the data duplication as there were duplicated data regarding the artists surname, which then didn't allow me to create the tables which I needed to but after I had spotted this mistake the tables carried on working as usual.

My database structure didn't entirely meet the requirements needed as the criteria I was inputting was not working and was consistently displaying error messages, every time I had retried inputting different criteria's which I had of thought met the requirements to get the database to work.

Comments
It is very hard to determine what the candidate is talking about. There was data duplication in terms of the surname, but the explanation does not show any understanding or appropriate use of technical concepts. There is very little coherence present. Overall, the surname is relevant and that is it.

Band	Mark
1	1

Example C

In order to meet the structure requirements such as keeping within the range of how many days an exhibition will run for, I made sure that I used a range check when validating my table. When using a range check I typed into the validation rule box "between 3 and 10" this ensures that any number out of this range will be invalid and an error message will appear asking the user to keep within this range. Furthermore, this will help reduce human errors as this prevents users from entering the erroneous data.

To ensure that galleries were either combo or commercial in my data structure, I decided to do a lookup wizard when choosing a data type. By entering my own values into the lookup wizard, users are able to use a drop down list to choose between combo or commercial. To make sure that users were not able to enter in their own values, I enabled 'limit to list' on the 'lookup' tab in design mode. This can reduce any errors such as spelling mistakes to incorrect gallery types.

Comments
This candidate is focusing purely on validation. There is no discussion about data duplication.
The candidate also could have discussed why the choice of a range check was used as opposed to value lookup etc.

Band	Mark
1	2

Example D

I have now finished my Relational database for Smart Act. To reduce data duplication, I normalised my data by separating them into 4 tables, tblgallery, tblgallerytype, tblartist and tblexhibition. After this, I created a primary key for each table, for example ArtistID, a primary key is a unique identifier for each field which minimised data duplication as data in that field can't be repeated in that table. I created foreign keys, which is a primary key from another table, which allows us to link tables together across the database by creating a relationship. These elements reduce data duplication as there is less human error as the database won't allow data to be entered twice and presenting an error message when the user has done this, therefore making the database more accurate and creating an ease of use.

Once I had created all my tables and entered the data, I entered the data types and validation. These include presence check, format check, length check, table and value look up and a range check along with what type of data is being entered, for example short text, number or currency. Each exhibition can run for 3 to 10 days only, so to make sure there was no error when entering the data, I inputted a range check for 'Between 3 and 10' along with an error message which would appear in case I entered a value above or below the numbers. An exhibition is for a single artist and held in a single gallery, to express this in my database I put ArtistID and GalleryID as foreign keys in the exhibition table and did a table lookup, this links these tables together and creates a drop down box of each gallery and artist, meaning that the database won't allow any values other than the already inputted ones. There are only two types of galleries, Commercial or Combo, I created a value lookup for this which gave the user a drop down box of the two options so the user could pick which one when inputting the data and less error is made as an error message would appear if they tried to enter data that wasn't in the dropdown box.

Comments

The first paragraph is trying to show understanding of technical concepts but is not doing it very well. It is more of a 'here is what I think I know' rather than 'here is how it relates to my solution'. The only part of any use is highlighted.

The second paragraph is much better and does show some relation of technical concepts to their solution:

- The candidate has picked up on the need to validate the number of days and that a range check was how they achieved this. They could have perhaps said why they chose that as opposed to a combo box.
- This shows understanding of foreign keys and relationships in terms of the scenario and their solution. It also shows understanding of combo boxes and their use for this scenario.
- This shows understanding of the scenario, which is good, but not the data. The data clearly shows that the gallery type belongs to the key GalleryTypeID. This should have been a table lookup and discussed as part of the foreign key examples. Combo box discussed well again.

The discussion about data duplication would need to be developed to enter band 3.

Band	Mark
2	4

Example E

The database structure has minimised data duplication very well by using foreign keys to ensure no data is in more than one table. A very good example of this is tbl_gallery_types and tbl_gallerys. Tbl_gallerys has three fields, one of which is Gallery Type ID and this is a Table lookup which gets the gallery type id from the tbl_gallery_types table. This means that more gallery types can be added in the future without difficulty as they only need to be added to tbl_gallery_types and also it means that there is no duplication of the Gallery Type field anywhere else in the database. All tables have unique primary keys and all relationships have referential integrity enforced which ensures no data collisions or mismatches occur in the database, limiting data duplication or data mismatches.

In terms of the validation of the database an exhibition will run between 3 and 10 days as I used the Between comparison operator which will only allow numbers between the values and including the values. This means that 3, 4, 5, 6, 7, 8, 9, 10 days are all allowed by 1, 2 and 11 wouldn't be. This would mean anyone inputting data wouldn't accidentally input a number too high or too low which would reduce complications later on.

To make sure an exhibition is for a single artist in a single gallery, tbl_exhibitions uses Exhibition ID as a Primary Key to ensure data in the table is related to that Exhibition ID which would not allow multiple artists to use the same Exhibition ID as a primary key is unique and therefore cannot have the same value multiple times. Furthermore, the artist ID and Gallery ID are foreign keys that are looked up from tbl_artists and tbl_gallerys respectively. These both have Limit to List set to Yes which means if an input is inputted in that is not in these lists then it rejects it which will again reduce data input issues.

To ensure that galleries are either combo or commercial I used a foreign key of Gallery Type ID which was looked up from tbl_gallery_types. This lookup has Limit to List set to Yes on it which means that again only items from that list are accessible in the tbl_gallerys table. This means that a gallery can only be either Combo or Commercial as this is being looked up from a separate table.

Comments

This is an excellent account of how well their database structure minimised data duplication. It is clear to see the candidate understands technical concepts and can relate them well to their own solution. It is very nice to see the candidate make the link between data duplication, relationships and the use of table lookups. This candidate has also picked up on the need to validate combo or commercial by using a standalone table (GalleryTypeID, GalleryType) and the use of a foreign key in the gallery table.

The candidate has also discussed the range check well.

Band	Mark
3	6