**Higher Diploma in Information Technology**

**Database Management Systems**

**Year 1 Semester 2 – 2021**

**Worksheet 05**

Consider the following relation Musician and answer the following questions.

Musician (MuscianID, MuscianName, Category, Rank, Instrument)

1. Create the relation Musician with the following considerations.

* Select appropriate data types.
* Implement the following constraints on Musician relation.
* Primary key constraint on MuscianID.
* All the musicians should have a name. (musician name should not be null)
* Default value of musician rank is 4.
* Check constraint on Category column to ensure that musician category is either ‘Pop’, ‘Rock’, ‘Reggae’ and ‘Classical’.

1. Insert the sample data into the table.

**Musician**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MuscianID | MuscianName | Category | Rank | Instrument |
| 12 | Selena | Pop | 4 | Guitar |
| 14 | Davis | Rock | 4 | Piano |
| 15 | Keanu | Reggae | 3 | Guitar |
| 17 | Ravi | Classical | 5 | Flute |
| 24 | Neela | Classical | DEFAULT | Piano |
| 25 | Kevin | Pop | 2 | Guitar |
| 27 | Lucas | Reggae | 5 | Flute |
| 29 | Aiden | Classical | 3 | Guitar |

1. Insert the following records to the Musician table and comment on the result.

**Musician**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MuscianID | MuscianName | Category | Rank | Instrument |
| 30 | null | Pop | 4 | Guitar |
| 32 | Oliver | Hiphop | 5 | Piano |

1. Modify the Musician relation and add a new column ‘Country’ to store the country of a musician. Use appropriate data type.
2. Update the country column as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MuscianID | MuscianName | Category | Rank | Instrument | Country |
| 12 | Selena | Pop | 4 | Guitar | SriLanka |
| 14 | Davis | Rock | 4 | Piano | America |
| 15 | Keanu | Reggae | 3 | Guitar | Brazil |
| 17 | Ravi | Classical | 5 | Flute | SriLanka |
| 24 | Neela | Classical | DEFAULT | Piano | India |
| 25 | Kevin | Pop | 2 | Guitar | America |
| 27 | Lucas | Reggae | 5 | Flute | Brazil |
| 29 | Aiden | Classical | 3 | Guitar | America |

1. Answer the following questions.
2. List the unique countries of musicians.
3. List musician ID and name of musicians from Sri Lanka with a rank above 3.
4. List all musicians those who have a rank less than to 4 or category is “Classical’.
5. List the details of the musicians whose name ends with n.
6. List the name of all musicians who name start with a character between G and S
7. List the details of the musicians whose musician IDs are between 20 and 30.
8. List musician ID and name of those play piano or guitar.
9. What is the average rank of a musician?
10. List the maximum rank of an American musician.
11. How many unique categories are in the musician relation?
12. List the musician ID, name, and country. Sort the output using the country.
13. List the Category and the number of musicians in each category. List only the categories which have more than one such musicians. sort the output in descending order of category.
14. List the Instrument and number of musicians who play a particular instrument. sort the output in descending order of Instrument.

1. Delete all musicians whose rank is below 3.