

Task

You are part of a team creating an IAM (Identity & Access Management) solution. You have defined a table `UserRole` with the following structure:

```
CREATE TABLE UserRole(  
    Id bigint NOT NULL AUTO_INCREMENT,  
    Name varchar(100) NOT NULL,  
    Description varchar(200) NULL,  
    IsEnabled bit NOT NULL,  
    Created date NOT NULL,  
    CreatedBy varchar(200) NOT NULL,  
    Updated date NULL,  
    UpdatedBy varchar(200) NULL,  
    CONSTRAINT PK_UserRole PRIMARY KEY ( Id ASC )  
)
```

Your task is to write a SQL query that will return roles that:

- have a non-NULL description;
- were created by John Smith;
- were created later than 3rd January 2020;
- were created before 7th January 2020;
- have never been updated, i.e. the `Updated` column is not set.

The results should contain the role name, description and status. Rows should also be sorted by a role name in descending order. A column with a role name should be called `Name`, with a description `Description` and a status `Status`. The `Status` column should be set to `DISABLED` if the `IsEnabled` column is set to 0, and `ENABLED` otherwise.

You should also take into account that values in the `CreatedBy` column are not consistent:

- They can contain additional white spaces at the beginning or the end;
- They can be written in a mixture of small and capital letters; e.g. *JOHN SMITH*, *john smith*.

Hints:

- Your query will be executed against MySQL 8.0 database.
- Pay attention to the *Query_Can_Be_Executed_Without_Any_Error* test, which only validates if your query can be executed. If this test fails, it probably means that your query is not syntactically correct.

Here is an example. Let's assume that we have the following data in the table:

Id	Name	Description	IsEnabled	Created	CreatedBy	Updated	UpdatedBy
1	Role_1	NULL	1	2020-04-15 00:00:00.000	Admin	NULL	NULL
2	Role_2	Description	1	2020-04-16 00:00:00.000	ADMIN	2020-04-17 00:00:00.000	John Smith
3	Role_3	Description	0	2020-04-16 00:00:00.000	John SMITH	2020-04-17 00:00:00.000	Ben SMITH
4	Role_4	Description	1	2020-04-19 00:00:00.000	bEn SmiTh	2020-04-21 00:00:00.000	BEN SMITH

For this data the report should look as follows:

UserName	NoOfCreatedRoles	NoOfCreatedAndEnabledRoles	NoOfUpdatedRoles
BEN SMITH	1	1	2
JOHN SMITH	1	-1	1
ADMIN	2	2	-1

Hints:

- You can assume that there is at least one role created by each user.
- Your query will be executed against MySQL 8.0 database.
- Pay attention to *Query_Can_Be_Executed_Without_Any_Error* test, which only validates if your query can be executed. If this test fails, it probably means that your query is not syntactically correct.

SOLUTION

```
ALTER TABLE UserRole
ADD Status varchar(200) NOT NULL;
UPDATE UserRole SET Status = "ENABLED"
UPDATE UserRole SET Status = "DISABLED" WHERE IsEnabled = 0;
SELECT Name, Description, Status FROM UserRole WHERE (Description IS NOT NULL)
AND (CreatedBy = "John Smith" OR CreatedBy = "JOHN SMITH" OR CreatedBy = "john
smith" OR CreatedBy = " John Smith" OR CreatedBy = " John Smith " OR CreatedBy
= "John Smith " OR CreatedBy = " JOHN SMITH" OR CreatedBy = " JOHN SMITH " OR
CreatedBy = "JOHN SMITH ") AND (CAST(Updated AS Date) > '2020-01-03' AND
CAST(A.Date AS Date) < '2020-01-07') AND (Updated is NULL) ORDER BY Name DESC
```