**1. How to query the factorial of 6 recursively**

We reduce the problem into smaller problems of the same type to define the factorial n! recursively. For this the following definition can be used:

* 0! = 1 for step = 0
* (n+1)! = n! \* (step+1) for step > 0

With this simple definition you can calculate the factorial of every number. In this exercise, n! is represented by factorial.

You are going to leverage the definition above with the help of a recursive CTE.

* Initialize the fields factorial and step to 1.
* Calculate the recursive part with factorial \* (step + 1).
* Stop the recursion process when the current iteration value is smaller than the target factorial number.

## **2. Cancellation rates,**

From the following table of user IDs, actions, and dates, write a query to return the publication and cancellation rate for each user.

users

|  |  |  |
| --- | --- | --- |
| User\_id | Action | date |
| 1 | Start | 1-1-20 |
| 1 | Cancel | 1-2-20 |
| 2 | Start | 1-3-20 |
| 2 | Publish | 1-4-20 |
| 3 | Start | 1-5-20 |
| 3 | Cancel | 1-6-20 |
| 1 | Start | 1-7-20 |
| 1 | publish | 1-8-20 |

Desired\_output

|  |  |  |
| --- | --- | --- |
| User\_id | Publish\_rate | Cancel\_rate |
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 0.0 |
| 3 | 0.0 | 1.0 |

1. Create above table (users) with “with” clause,
2. Retrieve count of starts, cancels, and publishes for each user,
3. Calculate publication, cancelation rate for each user by dividing by number of starts, casting as float by multiplying by 1.0