

Data analysis

Task set 1

1. Install PostgreSQL (<https://www.postgresql.org/download/>)
2. Create database "Example1"
3. Create a database with the following tables:
 - a. Table "Customers" containing
 - i. Customer ID – an integer number, unique, not null
 - ii. First Name – a text
 - iii. Surname – a text
 - b. Table "Products" containing
 - i. Product ID – an integer number, unique, not null
 - ii. Name – a text
 - iii. Price – a floating point number
 - c. Table "Orders" containing
 - i. Order ID – an integer number, unique, not null
 - ii. Product ID – an integer number, not null
 - iii. Customer ID – an integer number
 - d. Table "Events" containing
 - i. Order ID – an integer number, not null
 - ii. EventDate – any date and time type
 - iii. EventType – enum that may contain values:
 1. OrderIssue
 2. CustomerAssignment
 3. CustomerCancellation
 4. DeliveryToCustomer
4. Insert at least 3 rows into tables "Customers", "Products" and "Orders".
5. For each order insert into "Events" table
 - a. A single event "OrderIssue"
 - b. At least 3 events "CustomerAssignment"
 - c. At least 3 events "CustomerCancellation"
6. For at least one order insert into "Events" a "DeliveryToCustomer" event
7. Create an SQL query that shows total income
8. Create an SQL query that shows average income per month
9. Create an SQL query that shows income generated by each customer
10. Create an SQL query that shows the most often purchased products
11. Create a table that contains the following KPIs calculated for each day:
 - a. "OrdersFinalized" – the number of orders that reached "DeliveryToCustomer" that day
 - b. "OrdersInProgress" – the number of orders that not yet reached "DeliveryToCustomer" till this day
 - c. "CustomerOrderBank" – the number of orders that have customer allocated in this day but are not yet delivered

