Exercise 6: SQL Basics - DDL

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Important! The following queries will permanently change the database. If you want to restore the database to default, execute the query in 'install.sql' file on Moodle and also delete all newly created tables.

Task 1: Create a relation Books, with the following columns: book_id (integer), title (varchar (300)), author (varchar(100)), date_of_publish (date)

Table movies should now look like this:

book_id	title	author	date_of_publish

Task 2: Insert two rows into the books relations: (1, 'Harry Potter', 'J.K. Rowling', '1997-06-26'), (2, 'The Fellowship of the Ring', 'J.R.R. Tolkien', '1954-07-29')

Table books should now have the following content:

book_id	title	author	date_of_publish
1	Harry Potter	J.K. Rowling	26.06.1997 00:00:00
2	The Fellowship of the Ring	J.R.R. Tolkien	29.07.1954 00:00:00

Task 3: Add new column to table books: publisher as VARCHAR(300), with default value 'Unknown'

Table books should now have the following content:

book_id	title	author	date_of_publish	publisher
1	Harry Potter	J.K. Rowling	26.06.1997 00:00:00	Unknown
2	The Fellowship of the Ring	J.R.R. Tolkien	29.07.1954 00:00:00	Unknown

Task 4: Rename column author to author_fullname

Table books should now have the following content:

book_id	title	author_fullname	date_of_publish	publisher
1	Harry Potter	J.K. Rowling	26.06.1997 00:00:00	Unknown
2	The Fellowship of the Ring	J.R.R. Tolkien	29.07.1954 00:00:00	Unknown

Task 5: Change column date_of_publish to column year_of_publish as INTEGER. As the value a year from the original date should be taken

Table books should now have the following content:

book_id	title	author_fullname	year_of_publish	publisher
1	Harry Potter	J.K. Rowling	1997	Unknown
2	The Fellowship of the Ring	J.R.R. Tolkien	1954	Unknown

Task 6: Change column book_id to auto-increment column

Task 7: Insert two new rows into the books table: ('Mort', 'T. Pratchett', '1987'), ('A Game of Thrones', 'G.R.R. Martin', 1996)

Table books should now have the following content:

book_id	title	author_fullname	year_of_publish	publisher
1	Harry Potter	J.K. Rowling	1997	Unknown
2	The Fellowship of the Ring	J.R.R. Tolkien	1954	Unknown
3	Mort	T. Pratchett	1987	Unknown
4	A Game of Thrones	G.R.R. Martin	1996	Unknown

Task 8: Set column book_id as primary key of the relation

Task 9: List all tables in 'public' schema of our database

Expected result:

catalog	schema	name
rental	public	books
rental	public	clients
rental	public	actors
rental	public	starring
rental	public	movies
rental	public	copies
rental	public	rentals
rental	public	employees

Task 10: Display details of all columns of table 'books'

Expected result:

column_name	default	is_nullable	data_type
book_id	nextval('books_seq'::regclass)	NO	integer
title		YES	character varying
author_fullname		YES	character varying
year_of_publish		YES	integer
publisher	'Unknown'::character varying	YES	character varying

Task 11: Display all primary keys of tables in our database

Expected result:

catalog	schema	table_name	constraint_name
rental	public	actors	actors_pkey
rental	public	movies	movies_pkey
rental	public	starring	starring_pkey
rental	public	clients	clients_pkey
rental	public	copies	copies_pkey
rental	public	rentals	rentals_pkey
rental	public	employees	employees_pkey
rental	public	books	books_pkey

Task 12: Drop table books and corresponding sequence