Indeksy, optymalizator
Lab 6-7

Imię i nazwisko:
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Pierwsze kroki

Stworz instancje serwera w lokalizacji /tmp/test_db (polecenie initdb z opcją -D)

```
initdb.exe -D C:\tmp\test_db
```

```
Data page checksums are disabled.

creating directory C:/tmp/test_db ... ok
creating subdirectories ... ok
selecting dynamic shared memory implementation ... windows
selecting default max_connections ... 100
selecting default shared_buffers ... 128MB
selecting default time zone ... Europe/Berlin
creating configuration files ... ok
running bootstrap script ... ok
performing post-bootstrap initialization ... ok
syncing data to disk ... ok

initdb: warning: enabling "trust" authentication for local connections
initdb: hint: You can change this by editing pg_hba.conf or using the option -A, or --auth-local and --auth-host, the
 next time you run initdb.

Success. You can now start the database server using:

    pg_ctl -D ^"C^:^\tmp^\test^_db^" -l logfile start
```

Przestaw port na którym uruchomiona będzie ta instancja na 15000

```
initdb.exe -D C:\tmp\test_db
```

```
#------------------------------------------------------------------------------
# CONNECTIONS AND AUTHENTICATION
#------------------------------------------------------------------------------

# - Connection Settings -

#listen_addresses = 'localhost'     # what IP address(es) to listen on;
                   # comma-separated list of addresses;
                   # defaults to 'localhost'; use '*' for all
                   # (change requires restart)
port = 16000                # (change requires restart)
max_connections = 100           # (change requires restart)
#reserved_connections = 0       # (change requires restart)
#superuser_reserved_connections = 3 # (change requires restart)
#unix_socket_directories = ''       # comma-separated list of directories
```

Uruchom tą instancję

```
pg_ctl -D "C:\tmp\test_db" -l "C:\tmp\test_db\log.txt" start
```

```
C:\Program Files\PostgreSQL\16\bin>pg_ctl -D "C:\tmp\test_db" -l "C:\tmp\test_db\log.txt" start
waiting for server to start.... done
server started
```

Połącz się z tą instancją z domyślną bazą postgres

```
psql -p 16000 postgres
```

```
c:\Program Files\PostgreSQL\16\bin>psql -p 16000 postgres
psql (16.2)
WARNING: Console code page (850) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# _
```

Utworz tabele tbl o strukturze: int id PK, varchar name

```
CREATE TABLE tbl (
    id SERIAL PRIMARY KEY,
    name VARCHAR
);
```

Wyświetl schemat tabeli tbl

```
postgres=# \d tbl
                                Table "public.tbl"
 Column |       Type        | Collation | Nullable |             Default
--------+-------------------+-----------+----------+---------------------------------
 id     | integer           |           | not null | nextval('tbl_id_seq'::regclass)
 name   | character varying |           |          |
Indexes:
    "tbl_pkey" PRIMARY KEY, btree (id)
```

Wstaw do tabeli tbl kilka przykładowych rekordów

```
INSERT INTO tbl (name) VALUES
    ('John'),
    ('Alice'),
    ('Bob');
```

Pobierz wszystkie rekordy

```
SELECT * FROM tbl;
```

```
postgres=# SELECT * FROM tbl;
 id | name
----+-------
  1 | John
  2 | Alice
  3 | Bob
(3 rows)


postgres=#
```

Zatrzymaj instancje test_db

```
pg_ctl -D "C:\tmp\test_db" stop
```

```
c:\Program Files\PostgreSQL\16\bin>pg_ctl -D "C:\tmp\test_db" stop
waiting for server to shut down.... done
server stopped
```