**Додаток К**

**Результат виконання PostgreSQL транзакцій**

*DROP SCHEMA public CASCADE;*

*CREATE SCHEMA public;*

*GRANT ALL ON SCHEMA public TO postgres;*

*GRANT ALL ON SCHEMA public TO public;*

*Start Transaction;*

*Savepoint main;*

*savepoint updateTableProgram;*

*update program set p\_route = 'немає',p\_transport = 'немає'*

*where p\_route is null or p\_transport is null;*

*select \* from program;*

*savepoint deleteFromFlights;*

*DELETE FROM flights*

*WHERE f\_date\_time\_of\_departure < current\_date;*

*select \* from flights;*

*savepoint insertInto;*

*CREATE FUNCTION inputInFlights() RETURNS VOID AS $$*

*DECLARE*

*i INT ;*

*b INT;*

*BEGIN*

*i = 1;*

*b = (select 10 - count(f\_id\_flights) from flights );*

*while i <= b*

*loop*

**Продовження додатку К**

*insert into flights(f\_name,f\_city\_of\_departure,f\_date\_time\_of\_departure,f\_city\_arrives,f\_date\_time\_arrives)*

*values (('[0:9]={Silk Way Airlines,Emirates Airline,Air VIA,AirBaltic,UMAir,Travel Service,Finnair,Air China ,Hainan Airlines ,Air Koryo}'::text[])[trunc(random()\*10)] ,*

*('[0:9]={Київ,Львів,Харків,Івано-Франківськ,Варшава,Вроцлав,Прага,Лісабон,Каталонія,Крим}'::text[])[trunc(random()\*10)],*

*timestamptz '2018-05-23 00:00:01' + random() \* (timestamptz '2018-05-23 00:00:01' - timestamptz '2018-05-25 03:14:07') ,*

*('[0:9]={Мадрид,Париж,Карибські острови,Нью-Йорк,Шанхай,Токіо,Санта-Крус-де-Тенерифе,Берлін,Рим,Ріо де жанейро}'::text[])[trunc(random()\*10)],*

*timestamptz '2018-05-25 00:00:01' + random() \* (timestamptz '2018-05-25 00:00:01' - timestamptz '2018-05-27 03:14:07')) ;*

*i = i + 1;*

*END LOOP;*

*END;*

*$$ LANGUAGE plpgsql;*

*select \* from inputInFlights();*

*ALTER SEQUENCE flights\_f\_id\_flights\_seq RESTART WITH 1;*

*select \* from flights;*

*rollback to savepoint updateTableProgram;*

*rollback to savepoint deleteFromFlights;*

*rollback to savepoint insertInto*

*-- commit;*

*Start Transaction;*

*Savepoint deleteField;*

*DELETE FROM tour\_program*

*WHERE tp\_id\_tour\_program = 4 or tp\_id\_tour\_program = 7 or tp\_id\_tour\_program = 9 or tp\_id\_tour\_program = 2 ;*

*Savepoint insertField;*

**Закінчення додатку К**

*INSERT INTO tour\_program*

*(tp\_id\_tour\_program,Program,Tours,tp\_date, tp\_time)*

*SELECT*

*unnest(array[4, 2]),unnest(array[4, 2]),unnest(array[4, 2]), current\_date - interval '1 days', '14:30:00';*

*-- unnest розгортає масив в набір рядків*

*Savepoint updateField;*

*WITH*

*updated AS (*

*UPDATE tour\_program*

*SET tp\_date = current\_date + interval '1 days'*

*WHERE tp\_date < current\_date*

*RETURNING tp\_id\_tour\_program*

*)*

*SELECT tp\_id\_tour\_program*

*FROM updated;*

*-- ALTER SEQUENCE tour\_program\_tp\_id\_tour\_program\_seq RESTART WITH 1;*

*select \* from tour\_program*

*order by tp\_id\_tour\_program*

*rollback to savepoint deleteField;*

*rollback to savepoint insertField;*

*rollback to savepoint updateField*

*-- commit;*