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Лабораторна робота № 2.

Завдання

1. Реалізувати функції внесення, редагування та вилучення даних у таблицях бази даних, створених у лабораторній роботі №1, засобами консольного інтерфейсу.
2. Передбачити автоматичне пакетне генерування «рандомізованих» даних у базі.
3. Забезпечити реалізацію пошуку за декількома атрибутами з двох та більше сутностей одночасно: для числових атрибутів – у рамках діапазону, для рядкових – як шаблон функції LIKE оператора SELECT SQL, для логічного типу – значення True/False, для дат – у рамках діапазону дат.
4. Програмний код виконати згідно шаблону MVC (модель-подання-контролер).

URL репозиторію

<https://github.com/Kolisnychenko-Dan/PGDB-1.git>

Деталізоване завдання 1

```
> insert/itembuild/qwe=123
> OOPS.. Got this one from the database: error: column "qwe" of relation
"itembuilds" does not exist
> bla bla bla
command not found: bla bla bla
```

Деталізоване завдання 2

```
get/itembuilds/5
> executed query {
  text: 'SELECT * FROM itembuilds LIMIT $1 OFFSET $2',
  duration: 21,
  rows: 5
}
| itembuilds_id || hero_id || patch || winrate |
-----|-----|-----|-----|
| 407315        || 7      || 10.3... || 63.95  |
-----|-----|-----|-----|
| 407316        || 6      || 7.10... || 54.39  |
-----|-----|-----|-----|
| 407317        || 9      || 4.2.1.. || 38.44  |
-----|-----|-----|-----|
| 407318        || 5      || 5.11... || 52.36  |
-----|-----|-----|-----|
| 407319        || 9      || 3.6.2   || 28.59  |
-----|-----|-----|-----|
```

```
get/itemsinbuild/407316
> executed query {
  text: 'SELECT item_id, item as "    item    ", amount \n' +
    '      FROM itembuild_links\n' +
    '      INNER JOIN items\n' +
    '      ON item_id = items_id\n' +
    '      WHERE itembuild_id = $1',
  duration: 22,
  rows: 5
}
| item_id ||      item      || amount |
-----|-----|
| 1      || 'Branch'      || 2      |
-----|-----|
| 2      || Drums of end.. || 4      |
-----|-----|
| 3      || Orb of venom  || 4      |
-----|-----|
| 4      || Scythe of vi.. || 9      |
-----|-----|
| 5      || Divine Rapie.. || 4      |
-----|-----|
```

Запит генерації айтембїлдів:

```
CREATE OR REPLACE PROCEDURE public.add_random_itembuilds(amount integer)
LANGUAGE plpgsql
AS $procedure$
DECLARE
    id_of_created_itembuild INT;
    start_of_sector INT;
    end_of_sector INT;
BEGIN
    start_of_sector = ((select last_value from suggested_items_suggested_items_id_seq)::int + 1) as p;

    INSERT INTO itembuilds(
        hero_id,
        patch,
        winrate
    )
    SELECT
        foo.hero_id,
        foo.patch,
        foo.winrate
    FROM (
        SELECT
            get_random_hero_id() as hero_id,
            ( select (((random()*10 + (generator*0))::int)::varchar || '.' ||
                ((random()*15 + (generator*0))::int)::varchar || '.' ||
                ((random()*20 + (generator*0))::int)::varchar) as patch) ,
            ( select ((random() + (generator*0) + random() + (generator*0)
                + random() + (generator*0) + random() + (generator*0))*25) as winrate)
            FROM generate_series(1,amount) as generator
        ) as foo;

    end_of_sector = (select last_value from suggested_items_suggested_items_id_seq)::int as l;

    for counter in start_of_sector..end_of_sector loop
        call add_random_items(counter);
    end loop;
END; $procedure$
```

Запит генерації айтемів у айтембілді:

```
CREATE OR REPLACE PROCEDURE public.add_random_items(_itembuild_id integer)
  LANGUAGE plpgsql
AS $procedure$
DECLARE
    amount_of_items_to_add INT;
BEGIN
    amount_of_items_to_add = floor((random() * random()) * 40) + 1;

    for counter in 1..amount_of_items_to_add loop
        call addItemToItemBuild( _itembuild_id, get_random_item_id());
    end loop;
END; $procedure$
```


Деталізоване завдання 3


```
> query/3/3/10.0.12/50
> executed query {
  text: 'SELECT itembuilds_id, hero as "    hero    ", winrate FROM itembuilds\n' +
    '      JOIN heroes\n' +
    '      ON heroes_id = hero_id\n' +
    '      WHERE hero_id = $1\n' +
    '      AND patch = $2\n' +
    '      AND winrate > $3\n' +
    '      ORDER BY winrate DESC;',
  duration: 121,
  rows: 1
}
| itembuilds_id ||      hero      || winrate |
|-----|
| 452580        || Elder Titan   || 63.98   |
|-----|
```


```
> query/2/0/500/0/10/15
> executed query {
  text: 'SELECT items_id,item as "    item    ",price,damage,stats_str,stats_agile,stats_int,itembuild_id, amount\n' +
    '      FROM items\n' +
    '      JOIN itembuild_links\n' +
    '      ON items_id = item_id\n' +
    '      AND amount = $5\n' +
    '      WHERE price BETWEEN $1 AND $2 \n' +
    '      AND damage BETWEEN $3 AND $4\n' +
    '      ORDER BY price DESC;',
  duration: 67,
  rows: 10
}
| items_id ||      item      || price || damage || stats_str || stats_agile || stats_int || itembuild_id || amount |
|-----|
| 3        || Orb of venom   || 325    || 6       || 0         || 0           || 0         || 430953        || 15     |
|-----|
| 3        || Orb of venom   || 325    || 6       || 0         || 0           || 0         || 472508        || 15     |
|-----|
| 3        || Orb of venom   || 325    || 6       || 0         || 0           || 0         || 495211        || 15     |
|-----|
```

```
> query/1/3/2/2/90
> executed query {
  text: 'SELECT hero as "      hero      ", item as "      item      ", winrate, patch as " patch  " FROM itembuilds\n' +
    '      INNER JOIN heroes  \n' +
    '      ON hero_id = heroes_id\n' +
    '      INNER JOIN items\n' +
    '      ON items_id = $2\n' +
    '      WHERE itembuilds.winrate > $4\n' +
    '      and hero_id = $1\n' +
    '      and EXISTS (\n' +
    '      select 1 from itembuild_links where \n' +
    '      item_id = $2\n' +
    '      and\n' +
    '      amount = $3\n' +
    '      )\n' +
    '      ORDER BY winrate DESC;',
  duration: 103,
  rows: 22
}
|      hero      ||      item      || winrate ||      patch      |
-----
| Elder Titan    || Drums of endur.. || 96.87    || 2.15.16    |
-----
| Elder Titan    || Drums of endur.. || 96.29    || 3.11.15    |
-----
```











Деталізоване завдання 4




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2 minutes ago  History

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	.vscode	ready lab2 bez Zvita	6 days ago
	db	lab 2 is ready	2 minutes ago
	node_modules	ready lab2 bez Zvita	6 days ago
	types	ready lab2 bez Zvita	6 days ago
	view	lab 2 is ready	2 minutes ago
	~lock.Kolisnychenko_zvit_2_l...	lab 2 is ready	2 minutes ago
	Kolisnychenko_zvit_2_laba.odt	lab 2 is ready	2 minutes ago
	README.md	lab 2 is ready	2 minutes ago
	app.js	lab 2 is ready	2 minutes ago
	node	ready lab2 bez Zvita	6 days ago


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PGDB-1 / lab_2 / view /

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13 minutes ago  History

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	replics.js	lab 2 is ready	13 minutes ago
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 Kolisnychenko-Dan lab 2 is ready 		13 minutes ago	 History
..			
 replicas.js	lab 2 is ready	13 minutes ago	
 tablefy.js	lab 2 is ready	13 minutes ago	