

Задание №1.

```

1  -- 1. Найти производителей, делающих ноутбуки и ПК, но не принтеры (используя EXIST).
2
3  SELECT maker,
4      ('Ekaterina Kaneva' || ' time:' || CURRENT_TIMESTAMP) AS student_with_time
5  FROM product AS lp
6  WHERE type = 'Laptop' AND
7  EXISTS (SELECT maker
8          FROM product
9          WHERE type = 'PC'
10         AND maker = lp.maker)
11 AND
12 NOT EXISTS (SELECT maker
13             FROM product
14             WHERE type = 'Printer'
15             AND maker = lp.maker)
16

```

Data output Messages Notifications

	maker character varying (10)	student_with_time text
1	B	Ekaterina Kaneva ...

Задание №2.

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1  -- 2. С помощью оператора EXIST найдите производителя ПК и модель, чья цена + 50$
2  -- ниже средней цены ноутбука, а ram и скорость больше в 1.5 и 1.2 раза соответственно
3
4  SELECT p.maker, p.model,
5      ('Ekaterina Kaneva' || ' time:' || CURRENT_TIMESTAMP) AS student_with_time
6  FROM product p
7  JOIN pc USING (model)
8  WHERE (pc.price + 50) < (SELECT AVG(price) FROM laptop) AND
9  (pc.ram * 1.5) >= (SELECT AVG(ram) FROM laptop) AND
10 (pc.speed * 1.2) >= (SELECT AVG(speed) FROM laptop)

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Data output Messages Notifications

	maker character varying (10)	model [PK] character varying (50)	student_with_time text
1	A	1232	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...
2	A	1233	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...
3	A	1233	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...
4	B	1121	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...
5	B	1121	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...
6	B	1121	Ekaterina Kaneva time:2022-11-09 22:22:14.425795...

Задание №3.

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1 -- 3. а) Найдите среднюю скорость и с помощью UNION ALL выведите 3 колонки
2 -- “product_type”, “product_model”, и “avg_speed” по всем моделям для ПК и ноутбуков
3
4 SELECT p.type AS product_type, p.model AS product_model, AVG(pc_and_lp.speed) AS avg_speed,
5      ('Ekaterina Kaneva' || ' time:' || CURRENT_TIMESTAMP) AS student_with_time
6 FROM product p
7 JOIN (SELECT speed, model
8       FROM pc
9       UNION ALL
10      SELECT speed, model
11      FROM laptop) pc_and_lp USING(model)
12 GROUP BY p.model
13 ORDER BY p.type
```

Data output				
	product_type character varying (50)	product_model character varying (50)	avg_speed numeric	student_with_time text
1	Laptop	1752	750.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
2	Laptop	1321	500.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
3	Laptop	1750	750.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
4	Laptop	1298	466.66666666	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
5	PC	1232	475.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
6	PC	1233	737.50000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
7	PC	1260	500.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03
8	PC	1121	650.00000000	Ekaterina Kaneva time:2022-11-09 22:32:32.2376+03

```
1 -- 3. б) Оберните запрос из пункта а): вывести производителя, модель, скорость, тип,
2 -- и среднюю скорость из подзапроса пункта а) тех ПК и ноутбуков, чья скорость выше.
3
4 SELECT p.make, pc_lp.product_model, p.speed, pc_lp.product_type, pc_lp.avg_speed,
5      ('Ekaterina Kaneva' || ' time:' || CURRENT_TIMESTAMP) AS student_with_time
6 FROM (SELECT maker, model, speed
7       FROM product
8       JOIN (SELECT model, speed
9            FROM pc
10            UNION ALL
11            SELECT model, speed FROM laptop) ms USING(model)) p
12 JOIN (SELECT p.type AS product_type, p.model AS product_model,
13        AVG(pc_and_lp.speed) AS avg_speed
14        FROM product p
15        JOIN (SELECT speed, model
16             FROM pc
17             UNION ALL
18             SELECT speed, model
19             FROM laptop) pc_and_lp ON (pc_lp.product_model = p.model)
20        GROUP BY p.model) pc_lp ON (pc_lp.product_model = p.model)
21 WHERE p.speed > pc_lp.avg_speed
```

Data output				
	maker character varying (10)	product_model character varying (50)	speed smallint	product_type character varying (50)
1	A	1232	500	PC
2	A	1233	900	PC
3	A	1233	800	PC
4	B	1121	750	PC
5	A	1233	750	PC
6	A	1232	500	PC
7	A	1298	600	Laptop