

From: Chingyu Chen
To: League of Legend professional team

"Dear League of Legend professional team I hope this message finds you well. It is really happy to cooperate with you ,and I will try my best to answer all the question"

Part 1 :From the chaomption_data database

1. For this question I use the command:

```
SELECT c.name,  
       s1.name AS summoner_spell_1,  
       s2.name AS summoner_spell_2,  
       s.skill_order  
FROM champions c  
JOIN skill_orders s  
  ON c.id = s.champion_id  
JOIN summoner_spells ss  
  ON c.id = ss.champion_id  
JOIN spells_1 s1  
  ON s1.id = ss.spell_1_id  
JOIN spells_2 s2  
  ON s2.id = ss.spell_2_id  
WHERE c.name = 'jax';
```

so you should choose Flash and Teleport as the summoner spell and the skill order is W→E→Q.

```
mysql> SELECT c.name, s1.name AS summoner_spell_1, s2.name AS summoner_spell_2, s.skill_order FROM champions c  
-> JOIN skill_orders s ON c.id = s.champion_id JOIN summoner_spells ss ON c.id = ss.champion_id join  
-> spells_1 s1 on s1.id = ss.spell_1_id join spells_2 s2 on s2.id = ss.spell_2_id WHERE c.name = 'jax';  
+-----+-----+-----+-----+  
| name | summoner_spell_1 | summoner_spell_2 | skill_order |  
+-----+-----+-----+-----+  
| Jax  | Flash           | Teleport         | W > E > Q   |  
+-----+-----+-----+-----+  
1 row in set (0.04 sec)
```

2. For this question I use the command:

```
SELECT c.name,
       i.item_combination,
       i.pick_rate,
       i.game_count,
       i.win_rate
FROM champions c
JOIN items i ON c.id = i.champion_id
WHERE c.name = 'jax';
```

There are three most popular items choice you can choose it base on your concern. I recommend to choose First one(Trinity Force→Sundered Sky→ Zhonya's Hourglass) and second one(Trinity Force→Sundered Sky→ Steak's Gage) .

```
mysql> select c.name, i.item_combination, i.pick_rate, i.game_count, i.win_rate from champions c join items i on c.id = i.champion_id where c.name = 'jax';
```

name	item_combination	pick_rate	game_count	win_rate
Jax	Trinity Force -> Sundered Sky -> Zhonya's Hourglass	26.79	3990	61.25
Jax	Trinity Force -> Sundered Sky -> Sterak's Gage	15.88	2365	61.90
Jax	Trinity Force -> Sundered Sky -> Frozen Heart	6.51	969	58.00

```
3 rows in set (0.04 sec)
```

3. For this question I use the command:

```
SELECT c.name,
       cs.win_rate,
       cs.comments
FROM champions c
JOIN counters cs ON c.id = cs.champion_id
WHERE c.name = 'jax';
```

You can pick Kennen, Teemo, Singed, DR.Mundo, Maokai to counter jax and avoid choose Warwick, Smolder, Varus, Kayle, Yauso.

```
mysql> select c.name, cs.win_rate, cs.comments from champions c join counters cs on c.id = cs.champion_id where c.name = 'jax';
```

name	win_rate	comments
Jax	58.00	Jax strongcounter Warwick
Jax	57.58	Jax strongcounter Smolder
Jax	56.67	Jax strongcounter Varus
Jax	56.13	Jax strongcounter Kayle
Jax	55.05	Jax strongcounter Yasuo
Jax	43.93	Jax weakcounter Kennen
Jax	43.59	Jax weakcounter Teemo
Jax	43.18	Jax weakcounter Singed
Jax	41.14	Jax weakcounter Dr. Mundo
Jax	40.97	Jax weakcounter Maokai

```
10 rows in set (0.04 sec)
```

4. For this question I use the command:

```
SELECT c.name,
       i.item_combination,
       so.skill_order,
       s1.name AS summoner_spell_1,
       s2.name AS summoner_spell_2
FROM champions c
JOIN counters cs
    ON c.id = cs.champion_id
JOIN items i
    ON cs.champion_id = i.champion_id
JOIN skill_orders so
    ON so.id = cs.champion_id
JOIN summoner_spells ss
    ON cs.champion_id = ss.champion_id
JOIN champion_stats css
    ON c.id = css.champion_id
JOIN spells_1 s1
    ON s1.id = ss.spell_1_id
JOIN spells_2 s2
    ON s2.id = ss.spell_2_id
JOIN positions p
    ON p.id = css.position_id
WHERE cs.comments LIKE '%strongcounter jayce%'
    AND p.position = 'top'
ORDER BY cs.win_rate DESC
LIMIT 1;
```

You can choose ChoGath and for the item choose Heartsteel → Sunfire Aegis
→ Thornmail ,skill order :E → Q → W ,summoner spells : Flash and Teleport

```
mysql> SELECT c.name, i.item_combination, so.skill_order, s1.name AS summoner_spell_1, s2.name AS summoner_spell_2 FROM champions c JOIN counters cs ON c.id = cs.champion_id JOIN items i ON cs.champion_id = i.champion_id JOIN skill_orders so ON so.id = cs.champion_id JOIN summoner_spells ss ON cs.champion_id = ss.champion_id JOIN champion_stats css ON c.id = css.champion_id JOIN spells_1 s1 ON s1.id = ss.spell_1_id JOIN spells_2 s2 ON s2.id = ss.spell_2_id JOIN positions p ON p.id = css.position_id WHERE cs.comments LIKE '%strongcounter jayce%' AND p.position = 'top' ORDER BY cs.win_rate DESC LIMIT 1;
```

name	item_combination	skill_order	summoner_spell_1	summoner_spell_2
Cho'Gath	Heartsteel → Sunfire Aegis → Thornmail	E > Q > W	Flash	Teleport

5. For this question I use the command:

```
SELECT c.name, cs.win_rate
FROM champions c
JOIN champion_stats cs ON c.id = cs.champion_id
WHERE cs.win_rate > (
    SELECT AVG(win_rate)
    FROM champion_stats
)
ORDER BY RAND()
LIMIT 5;
```

```
mysql> SELECT c.name, cs.win_rate FROM champions c JOIN champion_stats cs ON c.id = cs.champion_id WHERE cs.win_rate > (SELECT AVG(win_rate) FROM champion_stats) order by rand() limit 5;
+-----+-----+
| name | win_rate |
+-----+-----+
| Draven | 50.68 |
| Wukong | 50.92 |
| Malphite | 51.41 |
| Kayle | 50.52 |
| Teemo | 51.07 |
+-----+-----+
5 rows in set (0.04 sec)
```

Part 2 :From the chaomption_data database

1. For this question I use the command:

```
SELECT p.position,
       AVG(css.win_rate) AS average_win_rate
FROM champion_stats css
JOIN positions p
    ON p.id = css.position_id
GROUP BY p.position;
```

```
mysql> SELECT p.position, AVG(css.win_rate) AS average_win_rate FROM champion_stats
-> css JOIN positions p ON p.id = css.position_id GROUP BY p.position;
+-----+-----+
| position | average_win_rate |
+-----+-----+
| Top | 50.546829 |
| Jungle | 50.308889 |
| Middle | 50.482571 |
| Bottom | 50.103750 |
| Support | 50.457188 |
+-----+-----+
5 rows in set (0.04 sec)
```

2. For this question I use the command:

```
SELECT c.name,
       COUNT(1) AS times
FROM champions c
JOIN counters cs
     ON c.id = cs.counter_champion_id
WHERE cs.comments LIKE '%strongcounter%'
GROUP BY c.name
HAVING times > 20
ORDER BY times DESC;
```

You can see there are two champions which been strongly countered more than 20 times .(smolder 74 times , Tristana 22 times)

```
mysql> SELECT c.name, COUNT(1) AS times FROM champions c JOIN
-> counters cs ON c.id = cs.counter_champion_id WHERE cs.comments like '%strongcounter%'
-> GROUP BY c.name HAVING times > 20 ORDER BY times DESC;
+-----+-----+
| name   | times |
+-----+-----+
| Smolder |    74 |
| Tristana |    22 |
+-----+-----+
2 rows in set (0.05 sec)
```

3. For this question I use the command:

```
SELECT item_combination,
       AVG(win_rate),
       AVG(pick_rate)
FROM items
GROUP BY item_combination
HAVING AVG(win_rate) > 60
      AND AVG(pick_rate) > 30;
```

The item_combination with an average win rate exceeding 60% and an average pick rate over 30% is Trinity Force → Ravenous Hydra → Sterak's Gage with about 62.88% average win rate and 46.3% average pick rate.

```
mysql> select item_combination, avg(win_rate), avg(pick_rate) from items group by item_combination having avg(win_rate) > 60 and avg(pick_rate) > 30;
+-----+-----+-----+
| item_combination | avg(win_rate) | avg(pick_rate) |
+-----+-----+-----+
| Trinity Force -> Ravenous Hydra -> Sterak's Gage | 62.880000 | 46.300000 |
+-----+-----+-----+
1 row in set (0.04 sec)
```

4. For this question I use the command:

```
SELECT item_combination,  
       AVG(win_rate),  
       AVG(pick_rate)  
FROM items  
GROUP BY item_combination  
ORDER BY AVG(pick_rate) DESC  
LIMIT 5;
```

These are the the top 5 item combinations ranked by average pick rate.

```
mysql> select item_combination, avg(win_rate), avg(pick_rate) from items group by item_combination order by avg(pick_rate) desc limit 5;
```

item_combination	avg(win_rate)	avg(pick_rate)
Statikk Shiv -> Guinsoo's Rageblade -> Nashor's Tooth	55.210000	53.730000
Trinity Force -> Ravenous Hydra -> Sterak's Gage	62.880000	46.300000
Spear of Shojin -> Liandry's Torment -> Riftmaker	59.300000	43.250000
Tear of the Goddess -> Trinity Force -> Muramana -> Rapid Firecannon	53.560000	40.635000
Statikk Shiv -> Runaan's Hurricane -> Infinity Edge	57.490000	38.100000

I hope I solve all your questions,if you have any further questions in those parts,please feel free to contact me .

Best regards,

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