商户统计及分析模块SQL

```
1  /*
2  编写者：凌晨
3  功能：查询评分最低，即后十名的商家
4  时间：2024.1.3
5  */
6  SET mapreduce.job.reduces = 10;
7
8  SELECT name,stars
9  FROM business
10 ORDER BY stars ASC
11 LIMIT 10;
```

name	stars
Taco Bell	1.0
Verizon FiOS	1.0
Square 1 Van Lines	1.0
Sell All Cars	1.0
Smoothie King	1.0
Little Caesars Pizza	1.0
Chenatural	1.0
National Property Inspections	1.0

```
1  /*
2  编写者：凌晨
3  功能：查询评分最高，即前十名的商家
4  时间：2024.1.3
5  */
6  SET mapreduce.job.reduces = 10;
7
8  SELECT name,stars
9  FOM business
10 ORDER BY stars DESC
11 LIMIT 10;
```

name	stars
StationOne	5.0
Sherwood Park Kwik Lube	5.0
Los Reyes De La Torta	5.0
Wholistic Medical Group	5.0
Jats Auto Transfer	5.0
City Farm Company	5.0
AMP: Advocate Marketing & Print	5.0
David Oase, CPA	5.0

```sql
1  /*
2  编写者：凌晨
3  功能：查询根据某个属性来进行查询商家，查询结果按照评分进行排序
4  时间：2024.1.3
5  */
6
7  SELECT name,attributes,stars
8  FROM business
9  WHERE attributes LIKE '%BikeParking%'   -- 在这里进行参数输入，用例为模糊查询所有
   BikeParking
10 ORDER BY stars DESC
11 limit 20;
```

name	attributes	stars
Nok's Expert Thai Massage Center	{"BusinessParking":"{'garage': False, 'street': False, 'validated': False, 'lot': False, 'valet': False}","RestaurantsPriceRange2":"1","ByAppointmentOnly":"False","WheelchairAccessible":"False","BikeParking":"True","AcceptsInsurance":"False","WiFi":"u'no'","BusinessAcceptsCreditCards":"True"}	5.0
Snakeroot Botanicals	{"AcceptsInsurance":"False","BikeParking":"True","BusinessAcceptsBitcoin":"False","BusinessAcceptsCreditCards":"True","WiFi":"u'no'","WheelchairAccessible":"True","DogsAllowed":"False","BusinessParking":"{'garage': False, 'street': True, 'validated': False, 'lot': False, 'valet': False}"}	5.0
Guns and Leather	{"BusinessAcceptsCreditCards":"True","RestaurantsPriceRange2":"1","BusinessParking":"{'garage': False, 'street': False, 'validated': False, 'lot': True,	5.0

```sql
1  /*
2  编写者：凌晨
3  功能：查询评分最低，即后十名的商家,同时将评论数考虑其中
4  时间：2024.1.3
5  */
6  SET mapreduce.job.reduces = 10;
7
8  SELECT name,stars,review_count
9  FROM business
10 WHERE review_count>=20
11 ORDER BY stars ASC,review_count DESC
```

```
12  LIMIT 20;
13
```

name	stars	review_count
Sears Home Services	1.0	575
Defender Security Company	1.0	413
Frontier Communications	1.0	397
Cenlar	1.0	394
Express Scripts	1.0	308
Comcast	1.0	289
EXPRESS SCRIPTS	1.0	216
CenturyLink - Boise	1.0	200

```
 1  /*
 2  编写者：凌晨
 3  功能：查询评分最高，即前十名的商家,同时将评论数考虑其中
 4  时间：2024.1.3
 5  */
 6  SET mapreduce.job.reduces = 10;
 7
 8  SELECT name,stars,review_count
 9  FROM business
10  WHERE review_count>=20
11  ORDER BY stars DESC,review_count DESC
12  LIMIT 50;
```

name	review_count	stars ▲
Blues City Deli	991	5.0
Carlillos Cocina	799	5.0
Free Tours By Foot	769	5.0
Tumerico	705	5.0
Yats	623	5.0
Nelson's Green Brier Distillery	545	5.0
Smiling With Hope Pizza	526	5.0
Barracuda Deli Cafe St. Pete Beach	521	5.0

```
 1  /*
 2  编写者：凌晨
 3  功能：查看所有商家的评分分布
 4  时间：2024.1.3
 5  */
 6
 7  SELECT stars,COUNT(*) as count
```
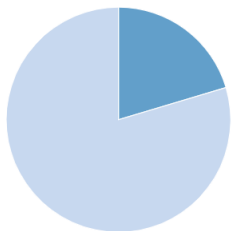
```
 8  FROM business
 9  GROUP BY stars
10  ORDER BY stars;
```



```
 1  /*
 2  编写者: 凌晨
 3  功能: 查看所有商家开门分布情况
 4  时间: 2024.1.3
 5  */
 6
 7  SELECT is_open,COUNT(*) as count
 8  FROM business
 9  GROUP BY is_open
10  ORDER BY is_open;
```



```
 1  /*
 2  编写者: 钟鹏
 3  功能: 查询打卡次数前十名的商家
 4  时间: 2024.1.3
 5  */
 6  SELECT
 7      t1.name,
 8      COUNT(t2.business_id) AS checkin_count
 9  FROM (
```

```
10      SELECT DISTINCT business_id, name
11      FROM business
12 ) AS t1
13 INNER JOIN checkin t2 ON t1.business_id = t2.business_id
14 GROUP BY t1.name
15 ORDER BY checkin_count DESC
16 LIMIT 10;
```

name	checkin_count
Starbucks	724
McDonald's	701
Dunkin'	505
Subway	453
Taco Bell	360
CVS Pharmacy	344
Walgreens	341
Burger King	334

```
1 /*
2 编写者：钟鹏
3 功能：查询打卡次数前十名的城市
4 时间：2024.1.3
5 */
6 SELECT
7     t1.city,
8     COUNT(t2.business_id) AS checkin_count
9 FROM (
10      SELECT DISTINCT business_id, city
11      FROM business
12 ) AS t1
13 INNER JOIN checkin t2 ON t1.business_id = t2.business_id
14 GROUP BY t1.city
15 ORDER BY checkin_count DESC
16 LIMIT 10;
```

city	checkin_count
Philadelphia	12892
Tampa	8005
Tucson	7880
Indianapolis	6915
Nashville	6178
New Orleans	5867
Reno	5097
Edmonton	4675

```
1  /*
2  编写者：钟鹏
3  功能：查询打卡次数前十名的洲
4  时间：2024.1.3
5  */
6  SELECT
7      t1.state,
8      COUNT(t2.business_id) AS checkin_count
9  FROM (
10     SELECT DISTINCT business_id, state
11     FROM business
12 ) AS t1
13 INNER JOIN checkin t2 ON t1.business_id = t2.business_id
14 GROUP BY t1.state
15 ORDER BY checkin_count DESC
16 LIMIT 10;
```

state	checkin_count
PA	29289
FL	23034
TN	10615
IN	10284
MO	9830
LA	9323
AZ	8454
NJ	7503

```
1  /*
2  编写者：钟鹏
3  功能：按月统计打卡
4  时间：2024.1.3
5  */
6  SELECT
7      b.name AS business_name,
8      SUBSTR(c.checkin_dates, 1, 7) AS month,
9      COUNT(*) AS monthly_checkins
10 FROM
11     checkin c
12 JOIN
13     business b
14 ON
15     c.business_id = b.business_id
16 GROUP BY
17     b.name, SUBSTR(c.checkin_dates, 1, 7)
18 ORDER BY
```

```
19      monthly_checkins DESC
20
```

business_name	month	monthly_checkins
Starbucks	2010-07	55
Starbucks	2010-08	42
Starbucks	2010-09	33
McDonald's	2011-03	31
McDonald's	2010-09	31
Dunkin'	2010-08	30
Starbucks	2010-02	30
Walgreens	2010-07	29

```
 1  /*
 2  编写者: 钟鹏
 3  功能: 按年统计打卡
 4  时间: 2024.1.3
 5  */
 6  SELECT
 7      b.name AS business_name,
 8      SUBSTR(c.checkin_dates, 1, 4) AS year,
 9      COUNT(*) AS yearly_checkins
10  FROM
11      checkin c
12  JOIN
13      business b
14  ON
15      c.business_id = b.business_id
16  GROUP BY
17      b.name, SUBSTR(c.checkin_dates, 1, 4)
18  ORDER BY
19      yearly_checkins DESC
```

```
 1  /*
 2  编写者: 凌晨
 3  功能: 按日统计商户的打卡次数情况，按照打卡数排序
 4  时间: 2024.1.4
 5  */
 6  SELECT
 7      b.name AS business_name,
 8      SUBSTR(c.checkin_dates, 1, 10) AS day,
```

```
 9     COUNT(*) AS daily_checkins
10 FROM
11     checkin c
12 JOIN
13     business b
14 ON
15     c.business_id = b.business_id
16 GROUP BY
17     b.name, SUBSTR(c.checkin_dates, 1, 10)
18 ORDER BY
19     daily_checkins DESC
```

business_name	day	daily_checkins
Starbucks	2021-03-10	2
Jeni's Splendid Ice Creams	2020-07-24	2
Planet Fitness	2020-03-07	2
Leah's Kitchen	2019-11-09	2
Starbucks	2019-09-13	2
Domino's Pizza	2019-08-22	2
Starbucks	2019-07-11	2
Starbucks	2018-12-15	3

```
 1 /*
 2 编写者：凌晨
 3 功能：按日统计商户的打卡次数情况，按照日期排序
 4 时间：2024.1.4
 5 */
 6 SELECT
 7     b.name AS business_name,
 8     SUBSTR(c.checkin_dates, 1, 10) AS day,
 9     COUNT(*) AS daily_checkins
10 FROM
11     checkin c
12 JOIN
13     business b
14 ON
15     c.business_id = b.business_id
16 GROUP BY
17     b.name, SUBSTR(c.checkin_dates, 1, 10)
18 ORDER BY
19     day DESC
```

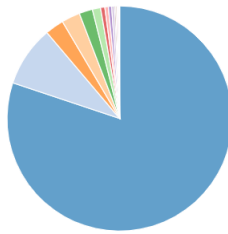| business_name	day	daily_checkins
Jeremiah Inn Bed & Breakfast	2022-01-19	1
Mr Beast Burger	2022-01-18	1
Sekushi At The Plaza	2022-01-18	1
Will's + Bill's Brewery and Restaurant	2022-01-18	1
Chick-Fil-A	2022-01-17	1
Gold Badge Elite Week: Raw Bar by Slapfish	2022-01-17	1
Blink Aesthetics By Brooke	2022-01-17	1
Gaby's Station Pizza	2022-01-16	1

```
1  /*
2  编写者：凌晨
3  功能：统计不同类型(American、Mexican、Italian、Japanese、Chinese、Thai、
     Mediterranean、French、Vietnamese、Greek、Indian、Korean、Hawaiian、African、
     Spanish、Middle_eastern)的餐厅类型级数量
4  时间：2024.1.4
5  */
6
7  SELECT
8    CASE
9      WHEN categories LIKE '%American%' THEN 'American'
10     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
11     WHEN categories LIKE '%Italian%' THEN 'Italian'
12     WHEN categories LIKE '%Japanese%' THEN 'Japanese'
13     WHEN categories LIKE '%Chinese%' THEN 'Chinese'
14     WHEN categories LIKE '%Thai%' THEN 'Thai'
15     WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
16     WHEN categories LIKE '%French%' THEN 'French'
17     WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
18     WHEN categories LIKE '%Greek%' THEN 'Greek'
19     WHEN categories LIKE '%Indian%' THEN 'Indian'
20     WHEN categories LIKE '%Korean%' THEN 'Korean'
21     WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
22     WHEN categories LIKE '%African%' THEN 'African'
23     WHEN categories LIKE '%Spanish%' THEN 'Spanish'
24     WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
25     ELSE 'Other'
26   END AS categories,
27   COUNT(*) AS count
28 FROM
29   business
30 GROUP BY
31   CASE
32     WHEN categories LIKE '%American%' THEN 'American'
33     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
34     WHEN categories LIKE '%Italian%' THEN 'Italian'
```

```
35        WHEN categories LIKE '%Japanese%' THEN 'Japanese'
36        WHEN categories LIKE '%Chinese%' THEN 'Chinese'
37        WHEN categories LIKE '%Thai%' THEN 'Thai'
38        WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
39        WHEN categories LIKE '%French%' THEN 'French'
40        WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
41        WHEN categories LIKE '%Greek%' THEN 'Greek'
42        WHEN categories LIKE '%Indian%' THEN 'Indian'
43        WHEN categories LIKE '%Korean%' THEN 'Korean'
44        WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
45        WHEN categories LIKE '%African%' THEN 'African'
46        WHEN categories LIKE '%Spanish%' THEN 'Spanish'
47        WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
48        ELSE 'Other'
49      END
50 ORDER BY count DESC;
```
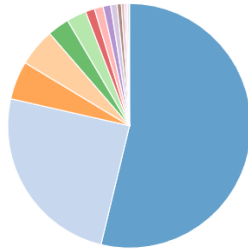


```
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 2  编写者：凌晨
 3  功能：统计不同类型(American、Mexican、Italian、Japanese、Chinese、Thai、
    Mediterranean、French、Vietnamese、Greek、Indian、Korean、Hawaiian、African、
    Spanish、Middle_eastern)的餐厅类型,数量,进行了数据清洗
 4  时间：2024.1.4
 5  */
 6
 7  SELECT
 8    CASE
 9      WHEN categories LIKE '%American%' THEN 'American'
10      WHEN categories LIKE '%Mexican%' THEN 'Mexican'
11      WHEN categories LIKE '%Italian%' THEN 'Italian'
12      WHEN categories LIKE '%Japanese%' THEN 'Japanese'
13      WHEN categories LIKE '%Chinese%' THEN 'Chinese'
14      WHEN categories LIKE '%Thai%' THEN 'Thai'
15      WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
16      WHEN categories LIKE '%French%' THEN 'French'
17      WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
```

```sql
18      WHEN categories LIKE '%Greek%' THEN 'Greek'
19      WHEN categories LIKE '%Indian%' THEN 'Indian'
20      WHEN categories LIKE '%Korean%' THEN 'Korean'
21      WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
22      WHEN categories LIKE '%African%' THEN 'African'
23      WHEN categories LIKE '%Spanish%' THEN 'Spanish'
24      WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
25      ELSE 'Other'
26    END AS categories,
27    COUNT(*) AS count
28  FROM
29    business
30  WHERE
31    categories LIKE '%American%'
32    OR categories LIKE '%Mexican%'
33    OR categories LIKE '%Italian%'
34    OR categories LIKE '%Japanese%'
35    OR categories LIKE '%Chinese%'
36    OR categories LIKE '%Thai%'
37    OR categories LIKE '%Mediterranean%'
38    OR categories LIKE '%French%'
39    OR categories LIKE '%Vietnamese%'
40    OR categories LIKE '%Greek%'
41    OR categories LIKE '%Indian%'
42    OR categories LIKE '%Korean%'
43    OR categories LIKE '%Hawaiian%'
44    OR categories LIKE '%African%'
45    OR categories LIKE '%Spanish%'
46    OR categories LIKE '%Middle_eastern%'
47  GROUP BY
48    CASE
49      WHEN categories LIKE '%American%' THEN 'American'
50      WHEN categories LIKE '%Mexican%' THEN 'Mexican'
51      WHEN categories LIKE '%Italian%' THEN 'Italian'
52      WHEN categories LIKE '%Japanese%' THEN 'Japanese'
53      WHEN categories LIKE '%Chinese%' THEN 'Chinese'
54      WHEN categories LIKE '%Thai%' THEN 'Thai'
55      WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
56      WHEN categories LIKE '%French%' THEN 'French'
57      WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
58      WHEN categories LIKE '%Greek%' THEN 'Greek'
59      WHEN categories LIKE '%Indian%' THEN 'Indian'
60      WHEN categories LIKE '%Korean%' THEN 'Korean'
61      WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
62      WHEN categories LIKE '%African%' THEN 'African'
63      WHEN categories LIKE '%Spanish%' THEN 'Spanish'
64      WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
```

```
65       ELSE 'Other'
66    END
67 ORDER BY count DESC;
```
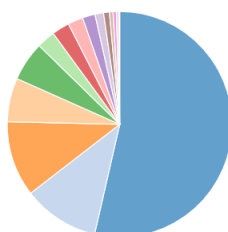


```
1  /*
2  编写者：凌晨
3  功能：统计不同类型(American、Mexican、Italian、Japanese、Chinese、Thai、
   Mediterranean、French、Vietnamese、Greek、Indian、Korean、Hawaiian、African、
   Spanish、Middle_eastern)的餐厅类型，评论数量，进行了数据筛选
4  时间：2024.1.4
5  */
6
7  SELECT
8    CASE
9      WHEN categories LIKE '%American%' THEN 'American'
10     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
11     WHEN categories LIKE '%Italian%' THEN 'Italian'
12     WHEN categories LIKE '%Japanese%' THEN 'Japanese'
13     WHEN categories LIKE '%Chinese%' THEN 'Chinese'
14     WHEN categories LIKE '%Thai%' THEN 'Thai'
15     WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
16     WHEN categories LIKE '%French%' THEN 'French'
17     WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
18     WHEN categories LIKE '%Greek%' THEN 'Greek'
19     WHEN categories LIKE '%Indian%' THEN 'Indian'
20     WHEN categories LIKE '%Korean%' THEN 'Korean'
21     WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
22     WHEN categories LIKE '%African%' THEN 'African'
23     WHEN categories LIKE '%Spanish%' THEN 'Spanish'
24     WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
25     ELSE 'Other'
26   END AS categories,
27   SUM(review_count) AS review_count
28 FROM
29   business
30 WHERE
```

```
31    categories LIKE '%American%'
32    OR categories LIKE '%Mexican%'
33    OR categories LIKE '%Italian%'
34    OR categories LIKE '%Japanese%'
35    OR categories LIKE '%Chinese%'
36    OR categories LIKE '%Thai%'
37    OR categories LIKE '%Mediterranean%'
38    OR categories LIKE '%French%'
39    OR categories LIKE '%Vietnamese%'
40    OR categories LIKE '%Greek%'
41    OR categories LIKE '%Indian%'
42    OR categories LIKE '%Korean%'
43    OR categories LIKE '%Hawaiian%'
44    OR categories LIKE '%African%'
45    OR categories LIKE '%Spanish%'
46    OR categories LIKE '%Middle_eastern%'
47  GROUP BY
48    CASE
49      WHEN categories LIKE '%American%' THEN 'American'
50      WHEN categories LIKE '%Mexican%' THEN 'Mexican'
51      WHEN categories LIKE '%Italian%' THEN 'Italian'
52      WHEN categories LIKE '%Japanese%' THEN 'Japanese'
53      WHEN categories LIKE '%Chinese%' THEN 'Chinese'
54      WHEN categories LIKE '%Thai%' THEN 'Thai'
55      WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
56      WHEN categories LIKE '%French%' THEN 'French'
57      WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
58      WHEN categories LIKE '%Greek%' THEN 'Greek'
59      WHEN categories LIKE '%Indian%' THEN 'Indian'
60      WHEN categories LIKE '%Korean%' THEN 'Korean'
61      WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
62      WHEN categories LIKE '%African%' THEN 'African'
63      WHEN categories LIKE '%Spanish%' THEN 'Spanish'
64      WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
65      ELSE 'Other'
66    END
67  ORDER BY review_count DESC;
```
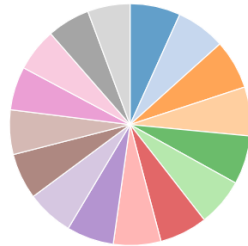
```
1  /*
2  编写者: 凌晨
3  功能: 统计不同类型(American、Mexican、Italian、Japanese、Chinese、Thai、
   Mediterranean、French、Vietnamese、Greek、Indian、Korean、Hawaiian、African、
   Spanish、Middle_eastern)的餐厅类型,评分
4  时间: 2024.1.4
5  */
6
7  SELECT
8    CASE
9      WHEN categories LIKE '%American%' THEN 'American'
10     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
11     WHEN categories LIKE '%Italian%' THEN 'Italian'
12     WHEN categories LIKE '%Japanese%' THEN 'Japanese'
13     WHEN categories LIKE '%Chinese%' THEN 'Chinese'
14     WHEN categories LIKE '%Thai%' THEN 'Thai'
15     WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
16     WHEN categories LIKE '%French%' THEN 'French'
17     WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
18     WHEN categories LIKE '%Greek%' THEN 'Greek'
19     WHEN categories LIKE '%Indian%' THEN 'Indian'
20     WHEN categories LIKE '%Korean%' THEN 'Korean'
21     WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
22     WHEN categories LIKE '%African%' THEN 'African'
23     WHEN categories LIKE '%Spanish%' THEN 'Spanish'
24     WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
25     ELSE 'Other'
26   END AS categories,
27   SUM(stars)/COUNT(stars) AS arv_stars
28 FROM
29   business
30 WHERE
31   stars IS NOT NULL
32 GROUP BY
33   CASE
34     WHEN categories LIKE '%American%' THEN 'American'
35     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
36     WHEN categories LIKE '%Italian%' THEN 'Italian'
37     WHEN categories LIKE '%Japanese%' THEN 'Japanese'
38     WHEN categories LIKE '%Chinese%' THEN 'Chinese'
39     WHEN categories LIKE '%Thai%' THEN 'Thai'
40     WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
41     WHEN categories LIKE '%French%' THEN 'French'
42     WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
43     WHEN categories LIKE '%Greek%' THEN 'Greek'
44     WHEN categories LIKE '%Indian%' THEN 'Indian'
45     WHEN categories LIKE '%Korean%' THEN 'Korean'
```

```
46     WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
47     WHEN categories LIKE '%African%' THEN 'African'
48     WHEN categories LIKE '%Spanish%' THEN 'Spanish'
49     WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
50     ELSE 'Other'
51   END
52 ORDER BY arv_stars DESC;
```


● Hawaiian ● African ● Korean ● Mediterranean ● Thai ● Vietnamese ● French ● Spanish ● Indian ● Greek ● Japanese ● Other ● American ● Italian ● Mexican ● Chinese

```
 1 /*
 2 编写者：凌晨
 3 功能：统计不同类型(American、Mexican、Italian、Japanese、Chinese、Thai、
   Mediterranean、French、Vietnamese、Greek、Indian、Korean、Hawaiian、African、
   Spanish、Middle_eastern)的餐厅类型,评分，进行了数据筛选
 4 时间：2024.1.4
 5 */
 6
 7 SELECT
 8   CASE
 9     WHEN categories LIKE '%American%' THEN 'American'
10     WHEN categories LIKE '%Mexican%' THEN 'Mexican'
11     WHEN categories LIKE '%Italian%' THEN 'Italian'
12     WHEN categories LIKE '%Japanese%' THEN 'Japanese'
13     WHEN categories LIKE '%Chinese%' THEN 'Chinese'
14     WHEN categories LIKE '%Thai%' THEN 'Thai'
15     WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
16     WHEN categories LIKE '%French%' THEN 'French'
17     WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
18     WHEN categories LIKE '%Greek%' THEN 'Greek'
19     WHEN categories LIKE '%Indian%' THEN 'Indian'
20     WHEN categories LIKE '%Korean%' THEN 'Korean'
21     WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
22     WHEN categories LIKE '%African%' THEN 'African'
23     WHEN categories LIKE '%Spanish%' THEN 'Spanish'
24     WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
25     ELSE 'Other'
```

```sql
26     END AS categories,
27     SUM(stars)/COUNT(stars) AS arv_stars
28 FROM
29     business
30 WHERE
31     stars IS NOT NULL and (categories LIKE '%American%'
32     OR categories LIKE '%Mexican%'
33     OR categories LIKE '%Italian%'
34     OR categories LIKE '%Japanese%'
35     OR categories LIKE '%Chinese%'
36     OR categories LIKE '%Thai%'
37     OR categories LIKE '%Mediterranean%'
38     OR categories LIKE '%French%'
39     OR categories LIKE '%Vietnamese%'
40     OR categories LIKE '%Greek%'
41     OR categories LIKE '%Indian%'
42     OR categories LIKE '%Korean%'
43     OR categories LIKE '%Hawaiian%'
44     OR categories LIKE '%African%'
45     OR categories LIKE '%Spanish%'
46     OR categories LIKE '%Middle_eastern%')
47 GROUP BY
48     CASE
49         WHEN categories LIKE '%American%' THEN 'American'
50         WHEN categories LIKE '%Mexican%' THEN 'Mexican'
51         WHEN categories LIKE '%Italian%' THEN 'Italian'
52         WHEN categories LIKE '%Japanese%' THEN 'Japanese'
53         WHEN categories LIKE '%Chinese%' THEN 'Chinese'
54         WHEN categories LIKE '%Thai%' THEN 'Thai'
55         WHEN categories LIKE '%Mediterranean%' THEN 'Mediterranean'
56         WHEN categories LIKE '%French%' THEN 'French'
57         WHEN categories LIKE '%Vietnamese%' THEN 'Vietnamese'
58         WHEN categories LIKE '%Greek%' THEN 'Greek'
59         WHEN categories LIKE '%Indian%' THEN 'Indian'
60         WHEN categories LIKE '%Korean%' THEN 'Korean'
61         WHEN categories LIKE '%Hawaiian%' THEN 'Hawaiian'
62         WHEN categories LIKE '%African%' THEN 'African'
63         WHEN categories LIKE '%Spanish%' THEN 'Spanish'
64         WHEN categories LIKE '%Middle_eastern%' THEN 'Middle_eastern'
65         ELSE 'Other'
66     END
67 ORDER BY arv_stars DESC;
```