Assignment 2 Complex Queries

1. Please find out the metro lines that overlap with bus stops on bus line2, and the corresponding subway stations. Arrange the result in ascending order according to the metro line id. If there is more than one overlapping station on one metro line, arrange them in ascending order according to the station id. Please output the **subway line id** and the **Chinese name of the corresponding station**.

   请找出与2路公交车站点有重叠的地铁线以及对应的地铁站，按照地铁线id升序排列，若有地铁站id一致的情况，按照站点id升序排列。请输出地铁线路id以及对应站点的中文名称

line_id	chinese_name
1	罗湖
1	国贸
2	湖贝
3	翠竹

2. Please find the metro line that has maximum station count. Please output the **station id** and the **Chinese name** of the first station of the line. If there is more than one line that has the maximum station number, please output them all in ascending order.

   找出拥有最多站点的地铁线路，输出线路id以及始发站点的中文名称。如果有多条线路，按线路id升序排列。

line_id	chinese_name
9	航海路

3. Find the stations that on metro line 1 and 5, but not on metro line 2. Please output the **station id** and the corresponding **Chinese name** of the station in ascending order of the station id.

   请找出一号线和五号线都经过，但二号线不经过的站点。输出站点id以及对应中文名称，按id升序排列。

station_id	chinese_name
22	前海湾
24	宝安中心

4. Since Shenzhen metro line is a long trip, there are many stations for interchange. Please query the station id, Chinese name and the pair of metro lines of these interchanges. The results should be unique, and the first metro line ID in pair should bigger than the second one.

深圳的地铁线路都很长，有很多地方可以换乘，请输出那些可以换乘的站点的序号和中文名字，以及换乘的线路对。请注意不要重复，而且第一个是序号大的线路，第二个是序号小的线路.

	station_id	chinese_name	line_id	line_id
1	46	福田	11	3
2	74	石厦	7	3
3	103	上梅林	9	4
4	65	景田	9	2

5. To map the starting and ending points of each railway line according to the color of the subway station sign, the information of the starting and ending station is needed. Please query and output the starting and ending stations' Chinese name of each railway line,, the metro line it is on, the line color and the HEX code representation.

想要在地图上按不同地铁站标志颜色绘制各地铁线起点和终点，请找出各线路的起点站和终点站，输出终点站的中名称，所在线路，线路颜色和hex码表示。

	start	terminal	line_id	line_color	hex
1	罗湖	机场东	1	Green	#008000
2	赤湾	新秀	2	Orange	#FFA500
3	益田	双龙	3	DeepSkyBlue	#00BFFF
4	福田口岸	牛湖	4	Red	#FF0000

6. (by Xu Jianhui)As an echo of the slogan "All the Way Southward", you are designated to choose a metro line for freshmen in SUSTech as a trip to make them familiar with the surroundings. The metro line is expected to span as much as possible in latitude for the emphasis of "Southward". Additionally, color of the metro line should be warm as a match for the theme color of SUSTech, namely, Blue value in the RGB form should be smaller than 128 in decimal representation.

为了呼应"一路向南"的标语，学校决定让你为南科大大一新生挑选一条主题地铁线进行新生活动，希望地铁线所到达的站台的南北跨度尽量大，以充分体现"向南方"的关键词。此外为了使得这条地铁线更具有南科大主题色，要求地铁线的颜色标志是暖色调的，即，RGB值中的B小于128。请问应当选择哪条地铁线？

	line_id
1	4

7. Find the most common first word in the English names of the metro stations. You can use 'split_part' to split words of the name.

查询各地铁站英文名最常出现的单词，以及出现的次数。你可以用"split_part"去分割单词。

	prefix	count
1	Shenzhen	4

8. Which station has connection with MTR or Railway,please show the station id

哪些公交车站可以与地铁或铁路换乘，显示公交站的id

	station_id
1	46
2	1
3	85
4	106

9. List all connections between any two of MTR line 1,5 and 11 , show the target station id,station name and two metro lines' id

列出地铁1、5、11的换乘站，列出这些换乘站的id，站名，以及哪些条地铁在此换乘

	station_id	chinese_name	ld1id	ld2id
1	4	大剧院	1	11
2	11	车公庙	1	11
3	22	前海湾	5	11
4	22	前海湾	1	11
5	22	前海湾	1	5
6	24	宝安中心	1	5

10. Please list the "event" ("line `line_id` extended/opened" for the opening and extension of the metro line) that occurred between 2008 and 2021. Please output the year and event in ascending order of the year.

列出所有在2008-2021年之间的"事件"（地铁线路的开通与扩展）并按照年限升序排列。

	year	event
1	2010	line 2 opened
2	2010	line 3 opened
3	2011	line 4 extended
4	2011	line 5 opened