

作业题

1、找出全部夺得3连贯的队伍

```
team,year
活塞,1990
公牛,1991
公牛,1992
公牛,1993
火箭,1994
火箭,1995
公牛,1996
公牛,1997
公牛,1998
马刺,1999
湖人,2000
湖人,2001
湖人,2002
马刺,2003
活塞,2004
马刺,2005
热火,2006
马刺,2007
凯尔特人,2008
湖人,2009
湖人,2010

create table t1(
team string,
year int
)row format delimited fields terminated by ',';

load data local inpath "/root/data/t1.dat" into table t1;
```

2、找出每个id在一天之内所有的波峰与波谷值

```
id,time,price
sh66688,9:35,29.48
sh66688,9:40,28.72
sh66688,9:45,27.74
sh66688,9:50,26.75
sh66688,9:55,27.13
sh66688,10:00,26.30
sh66688,10:05,27.09
sh66688,10:10,26.46
sh66688,10:15,26.11
sh66688,10:20,26.88
sh66688,10:25,27.49
sh66688,10:30,26.70
```

sh66688,10:35,27.57
sh66688,10:40,28.26
sh66688,10:45,28.03
sh66688,10:50,27.36
sh66688,10:55,26.48
sh66688,11:00,27.41
sh66688,11:05,26.70
sh66688,11:10,27.35
sh66688,11:15,27.35
sh66688,11:20,26.63
sh66688,11:25,26.35
sh66688,11:30,26.81
sh66688,13:00,29.45
sh66688,13:05,29.41
sh66688,13:10,29.10
sh66688,13:15,28.24
sh66688,13:20,28.20
sh66688,13:25,28.59
sh66688,13:30,29.49
sh66688,13:35,30.45
sh66688,13:40,30.31
sh66688,13:45,30.17
sh66688,13:50,30.55
sh66688,13:55,30.75
sh66688,14:00,30.03
sh66688,14:05,29.61
sh66688,14:10,29.96
sh66688,14:15,30.79
sh66688,14:20,29.82
sh66688,14:25,30.09
sh66688,14:30,29.61
sh66688,14:35,29.88
sh66688,14:40,30.36
sh66688,14:45,30.88
sh66688,14:50,30.73
sh66688,14:55,30.76
sh88888,9:35,67.23
sh88888,9:40,66.56
sh88888,9:45,66.73
sh88888,9:50,67.43
sh88888,9:55,67.49
sh88888,10:00,68.34
sh88888,10:05,68.13
sh88888,10:10,67.35
sh88888,10:15,68.13
sh88888,10:20,69.05
sh88888,10:25,69.82
sh88888,10:30,70.62
sh88888,10:35,70.59
sh88888,10:40,70.40
sh88888,10:45,70.29
sh88888,10:50,70.53
sh88888,10:55,70.92

```
sh88888,11:00,71.13
sh88888,11:05,70.24
sh88888,11:10,70.37
sh88888,11:15,69.79
sh88888,11:20,69.73
sh88888,11:25,70.52
sh88888,11:30,71.23
sh88888,13:00,72.85
sh88888,13:05,73.76
sh88888,13:10,74.72
sh88888,13:15,75.48
sh88888,13:20,75.80
sh88888,13:25,76.74
sh88888,13:30,77.22
sh88888,13:35,77.12
sh88888,13:40,76.90
sh88888,13:45,77.80
sh88888,13:50,78.75
sh88888,13:55,78.30
sh88888,14:00,78.68
sh88888,14:05,78.99
sh88888,14:10,78.35
sh88888,14:15,78.37
sh88888,14:20,78.07
sh88888,14:25,78.80
sh88888,14:30,79.78
sh88888,14:35,79.72
sh88888,14:40,80.71
sh88888,14:45,79.92
sh88888,14:50,80.49
sh88888,14:55,80.44
```

最终结果与此类似:

| id | time | price | feature |
|---------|-------|-------|---------|
| sh66688 | 10:05 | 27.09 | 波峰 |
| sh66688 | 10:15 | 26.11 | 波谷 |
| sh66688 | 10:25 | 27.49 | 波峰 |
| sh66688 | 10:30 | 26.7 | 波谷 |
| sh66688 | 10:40 | 28.26 | 波峰 |
| sh66688 | 10:55 | 26.48 | 波谷 |
| sh66688 | 11:00 | 27.41 | 波峰 |
| sh66688 | 11:05 | 26.7 | 波谷 |

```
create table t2(
id string,
time string,
price double
)row format delimited fields terminated by ',';

load data local inpath "/root/data/t2.dat" into table t2;
```

3、写SQL

3.1、每个id浏览时长、步长 3.2、如果两次浏览之间的间隔超过30分钟，认为是两个不同的浏览时间；再求每个id浏览时长、步长

备注：请仔细阅读计算规则

测试数据

```
id dt browseid
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:02
https://www.lagou.com/jobs/9590606.html?show=IEEE1FIJ3106A1H062HA
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:23
https://www.lagou.com/jobs/998375.html?show=EC1JGEC8G3HJC82JIHCD
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:09
https://www.lagou.com/jobs/8205098.html?show=G75J62JE63JE3678G98F
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:12
https://www.lagou.com/jobs/2280203.html?show=1957CGIA1702C1J9F0GH
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:31
https://www.lagou.com/jobs/5921958.html?show=BJ9CJJ6F0GH0CDGGHCCB
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 17:34
https://www.lagou.com/jobs/2569616.html?show=G5472AH6G1I61CGF9HGC
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:46
https://www.lagou.com/jobs/3892054.html?show=E771D8I4JJ0DE4DF575C
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:13
https://www.lagou.com/jobs/9559088.html?show=3EG4D1108IC3B446G2EB
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:14
https://www.lagou.com/jobs/3381768.html?show=99B480535EC2FA31DJ92
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:11
https://www.lagou.com/jobs/5100510.html?show=JGH3HJ36D7GHIEHEEFI6
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:20
https://www.lagou.com/jobs/2814357.html?show=6A6799246J9J4B6IC9HI
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:25
https://www.lagou.com/jobs/2428943.html?show=697DI68E5F133A1DD96D
934e8bee978a42c7a8dbb4cfa8af0b4f 2020/05/28 18:41
https://www.lagou.com/jobs/2790534.html?show=1C72FF96F549G4A458BI
32258fe7130844399859aec54b6df5ff 2020/05/28 03:47
https://www.lagou.com/jobs/4319618.html?show=A9IB685E7CJ9DIAB2244
32258fe7130844399859aec54b6df5ff 2020/05/28 03:33
https://www.lagou.com/jobs/1944013.html?show=A70H86DF1EHG2E57H1HE
32258fe7130844399859aec54b6df5ff 2020/05/28 03:21
https://www.lagou.com/jobs/1013342.html?show=366DJ2870404637EC19D
32258fe7130844399859aec54b6df5ff 2020/05/28 03:54
https://www.lagou.com/jobs/4952649.html?show=DGCC1FH06B69I9B1GA08
32258fe7130844399859aec54b6df5ff 2020/05/28 03:48
https://www.lagou.com/jobs/4427940.html?show=JAF2067192A1H53IJ00G
32258fe7130844399859aec54b6df5ff 2020/05/28 03:08
https://www.lagou.com/jobs/231554.html?show=I1J8G8075B7G5IDA326C
32258fe7130844399859aec54b6df5ff 2020/05/28 05:09
https://www.lagou.com/jobs/4799769.html?show=J7BGJ4B50GFHG4FEJCB6
32258fe7130844399859aec54b6df5ff 2020/05/28 05:26
https://www.lagou.com/jobs/7373006.html?show=6J9JJ89EADI7DI0H82C3
32258fe7130844399859aec54b6df5ff 2020/05/28 05:11
https://www.lagou.com/jobs/5766122.html?show=6J224ECEABC7C9I62763
```

32258fe7130844399859aec54b6df5ff 2020/05/28 05:34
<https://www.lagou.com/jobs/2962929.html?show=GH06BC9D6I2G7H3D79B8>
32258fe7130844399859aec54b6df5ff 2020/05/28 05:18
<https://www.lagou.com/jobs/5653876.html?show=H426J08J6H4JJJB74HFJE>
32258fe7130844399859aec54b6df5ff 2020/05/28 05:50
<https://www.lagou.com/jobs/7040422.html?show=0C78E264AHEADEJ26643>
32258fe7130844399859aec54b6df5ff 2020/05/28 05:45
<https://www.lagou.com/jobs/2961967.html?show=A4702EJ6E5DJIA475AF1de0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:04
<https://www.lagou.com/jobs/5552238.html?show=3I84DE05EH1AB6D13B3Gde0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:21
<https://www.lagou.com/jobs/1558623.html?show=CC6C7J0G326G2BJ3D179de0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:48
<https://www.lagou.com/jobs/9974358.html?show=7HJ4BIAGHD73F49G9JJJCde0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:56
<https://www.lagou.com/jobs/2628314.html?show=H1110A1AA14H64DA876Cde0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:50
<https://www.lagou.com/jobs/6317002.html?show=664G909C9EG7JC63IB7Dde0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:53
<https://www.lagou.com/jobs/1925810.html?show=FGEC1A7I60JJDAJGAF1Ade0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:00
<https://www.lagou.com/jobs/5946589.html?show=240EB7E488G6FH0G27JFde0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:48
<https://www.lagou.com/jobs/776158.html?show=03FI36B82792CEBJHI29de0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:14
<https://www.lagou.com/jobs/97519.html?show=JHF32AB5EH58HEC2F63Gde0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:50
<https://www.lagou.com/jobs/5196791.html?show=HDCJCA8JE1BF1IFE6HF6de0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:58
<https://www.lagou.com/jobs/6289105.html?show=I8D80BJFC3F3FEGGHA5Cde0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:13
<https://www.lagou.com/jobs/7901649.html?show=2GHE5B24F5ABC13I6EB4de0096ad04ec4273b0462c7da7d79653>
2020/05/28 17:39
<https://www.lagou.com/jobs/3214603.html?show=F6G8632470DAE5E760BGde0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:15
<https://www.lagou.com/jobs/6981846.html?show=1E7F19G856JA9JD8AB9Dde0096ad04ec4273b0462c7da7d79653>
2020/05/28 07:43
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2020/05/28 07:14
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2020/05/28 07:36
<https://www.lagou.com/jobs/2646629.html?show=B38GA2D1E10EBFE8F6F7307d9dce3b7f495ab8ad6033f8c54930>
2020/05/28 08:24
<https://www.lagou.com/jobs/7111580.html?show=FC6FD5F45B12ABIF02GD307d9dce3b7f495ab8ad6033f8c54930>
2020/05/28 08:06
<https://www.lagou.com/jobs/8038667.html?show=HG4HE7CGI00A7A1F2J5F307d9dce3b7f495ab8ad6033f8c54930>
2020/05/28 08:51
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2020/05/28 08:09
<https://www.lagou.com/jobs/8292709.html?show=H96I861CGIGIF571H2JJ>

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<https://www.lagou.com/jobs/5115760.html?show=H93JAJFDJH19HEF1E918>
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<https://www.lagou.com/jobs/4543947.html?show=FG0BGA0CFDF6270IJE32>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 08:17
<https://www.lagou.com/jobs/2188473.html?show=80JBIA9GFAJ76FD980AE>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:46
<https://www.lagou.com/jobs/9320424.html?show=1G50E0G0804JAJH2HBA1>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:00
<https://www.lagou.com/jobs/8308905.html?show=21DGJA045F8E64JHA0D6>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:08
<https://www.lagou.com/jobs/9159707.html?show=44EDBC5B43A444FH001C>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:10
<https://www.lagou.com/jobs/9532255.html?show=A1I8GI28GF0B14E97D64>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:51
<https://www.lagou.com/jobs/9785185.html?show=FIHCCA16AJDA32EC4332>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:56
<https://www.lagou.com/jobs/1117353.html?show=78GH99D70424B013G303>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:20
<https://www.lagou.com/jobs/1029027.html?show=F31BH181E6E8JJ4AD295>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:16
<https://www.lagou.com/jobs/9539487.html?show=47G414184H33E14DH159>
307d9dce3b7f495ab8ad6033f8c54930 2020/05/28 18:10
<https://www.lagou.com/jobs/8051736.html?show=JJ189D6F4HD6F0E7A2AGf5ae36c6cdda40d5954e08a2d14954a7>
2020/05/28 14:51
<https://www.lagou.com/jobs/5261931.html?show=7DA832A31BI430197F48f5ae36c6cdda40d5954e08a2d14954a7>
2020/05/28 14:32
<https://www.lagou.com/jobs/7521003.html?show=ACDFI9730A2B646I0270f5ae36c6cdda40d5954e08a2d14954a7>
2020/05/28 14:11
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2020/05/28 14:32
<https://www.lagou.com/jobs/874257.html?show=58IF72BB8F74ID23GE87f5ae36c6cdda40d5954e08a2d14954a7>
2020/05/28 14:37
<https://www.lagou.com/jobs/3485939.html?show=460DIAJ135CC950J3C77f5ae36c6cdda40d5954e08a2d14954a7>
2020/05/28 14:35
<https://www.lagou.com/jobs/8439256.html?show=81II8DB2J2IF8AIFJ67F80ea80b2e5a64cbebfaf34aa797125f0>
2020/05/28 03:22
<https://www.lagou.com/jobs/673620.html?show=H02AJA95GBE98768ADHF80ea80b2e5a64cbebfaf34aa797125f0>
2020/05/28 03:07
<https://www.lagou.com/jobs/3039181.html?show=A4EDIFDEJB2J40I64F0480ea80b2e5a64cbebfaf34aa797125f0>
2020/05/28 03:56
<https://www.lagou.com/jobs/7363821.html?show=5I687EDH2C3A1JJAF57D80ea80b2e5a64cbebfaf34aa797125f0>
2020/05/28 03:58
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2020/05/28 03:27
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2020/05/28 02:17
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2020/05/28 02:46
<https://www.lagou.com/jobs/6987631.html?show=936BIDF2F4352A39H6FF95273392ab1a4579914273cdd1f3a3ae>
2020/05/28 02:17
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95273392ab1a4579914273cdd1f3a3ae 2020/05/28 02:56
<https://www.lagou.com/jobs/8550343.html?show=DB23C4598E005CGHH06D>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 02:53
<https://www.lagou.com/jobs/166497.html?show=B9B3GFIB5EIC9E32J5IJ>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 02:16
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<https://www.lagou.com/jobs/6541296.html?show=47BH0G2A7IGFHIH61A85>
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<https://www.lagou.com/jobs/8701046.html?show=IDE79JG4DI0J6508F0HH>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:32
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95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:47
<https://www.lagou.com/jobs/7148755.html?show=F58GI58H74989HD65173>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:46
<https://www.lagou.com/jobs/4610986.html?show=G24C84DCG9FD5GFBFCEE>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:54
<https://www.lagou.com/jobs/2566998.html?show=90BIIIIA346E50A5DA67>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:17
<https://www.lagou.com/jobs/7418962.html?show=9F3AB45F1C3HAH58B8B8>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:16
<https://www.lagou.com/jobs/1307719.html?show=1J85244F2F81JCBGHH9C>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:56
<https://www.lagou.com/jobs/8686135.html?show=73E0E5J74EA8A5B8C0FD>
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<https://www.lagou.com/jobs/81114.html?show=DCIJI9H51I5BHGCI587E>
95273392ab1a4579914273cdd1f3a3ae 2020/05/28 22:58
<https://www.lagou.com/jobs/3454023.html?show=FI5EICD1F25F005J3CJG>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:13
<https://www.lagou.com/jobs/1609611.html?show=87F3GAA5DH97H6G6I3J2>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:51
<https://www.lagou.com/jobs/6306362.html?show=8775525F5EG213C94EE7>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:33
<https://www.lagou.com/jobs/9309683.html?show=3HHEBFA7BA8J8BH3GGIG>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:37
<https://www.lagou.com/jobs/3769247.html?show=BD7FE2HE8AED2F5J6818>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:56
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022f86d4533740ad914f233cbd9c4430 2020/05/28 22:38
<https://www.lagou.com/jobs/7732574.html?show=24AEBB54FA71D9F7JIDA>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:05
<https://www.lagou.com/jobs/2349225.html?show=5JI210IFIJ0I707G4II7>
022f86d4533740ad914f233cbd9c4430 2020/05/28 22:39
<https://www.lagou.com/jobs/2872366.html?show=9BCGBGHB73IG5AF4569>

建表导入数据:

```
-- 建表语句
create table t3(
    id string,
    dt string,
    browseid string
)row format delimited fields terminated by '\t';

-- 导入数据
load data local inpath "/root/data/t3.dat" into table t3;
```

计算规则说明:

```
id dt browseid
id: 唯一的用户id
dt: 用户在这个时间点点击进入了一个页面
browseid: 用户浏览了哪个页面
```

简化数据(以下为某个用户, 在一天内的浏览记录):

```
1 08:20 1.html
1 08:23 2.html
1 08:24 3.html
1 08:40 4.html
1 09:33 5.html
1 09:40 6.html
1 09:30 7.html
1 09:36 8.html
1 09:37 9.html
1 09:41 a.html
```

3.1、每个id浏览时长、步长

用户1的浏览时长 = 09:41 - 08:20 = 81分钟

用户1的浏览步长 = count数 = 10次

3.2、如果两次浏览之间的间隔超过30分钟, 认为是两个不同的浏览时间; 再求每个id浏览时长、步长

用户1在 8:40 - 09:30 的间隔超过了30。生产中认为:

用户1在 08:20 - 08:40 浏览一次网站。这次浏览时长为20分钟, 步长为4

用户1在 09:30 - 09:41 又浏览一次网站。这次浏览时长为11分钟, 步长为6

对于测试数据SQL1的结果:

| | | |
|----------------------------------|-------|----|
| 934e8bee978a42c7a8dbb4cfa8af0b4f | 104.0 | 13 |
|----------------------------------|-------|----|

对于测试数据SQL2的结果:

| | | |
|----------------------------------|------|---|
| 934e8bee978a42c7a8dbb4cfa8af0b4f | 32.0 | 6 |
| 934e8bee978a42c7a8dbb4cfa8af0b4f | 35.0 | 7 |