In [30]:
```
import numpy as np
import pandas as pd
import os
import glob
pd.set_option('float_format', '{:f}'.format)

import warnings
warnings.filterwarnings('ignore')
```

In [17]:
```
df = pd.read_csv('./customer_data.csv', header=0, index_col=0)
```

In [23]:
```
df = df[['vint_dt', 'pr_enrll_any', 'rwd_tier_dt', 'bl_3am_svm', 'cr_bl_3am_sv
m',
        'mled_acc_ct_svm', 'meac_acc_ct_svm', 'mesd_acc_ct_svm', 'fsvc_acc_ct_
svm',
        'opn_acc_ct_svm', 'rev_am_svm', 'pfee_amt_svm']]
```

In [36]:
```
df['vint_dt'] = pd.to_datetime(df['vint_dt'])
df['vint_dt_year'] = df['vint_dt'].dt.year
df['vint_dt_month'] = df['vint_dt'].dt.month
df['vint_dt_day'] = df['vint_dt'].dt.day
```

In [49]:
```
month_year = df.groupby(['vint_dt_month','vint_dt_year']).size().reset_index(n
ame='counts')
month_year.sort_values('counts', ascending=False).head()
```

Out[49]:

	vint_dt_month	vint_dt_year	counts
16	9	2016	6631
12	7	2016	6288
10	6	2016	5997
14	8	2016	5991
18	10	2015	5808

In [77]:
```
df = df[(df.vint_dt_month == 9) & (df.vint_dt_year == 2016)]
df['rwd_tier_dt'] = pd.to_datetime(df['rwd_tier_dt'])
df['rwd_tier_dt_year'] = pd.to_numeric(df['rwd_tier_dt'].dt.year, downcast='in
teger', errors='ignore')
df['rwd_tier_dt_month'] = pd.to_numeric(df['rwd_tier_dt'].dt.month, downcast=
'integer', errors='ignore')
df['rwd_tier_dt_day'] = pd.to_numeric(df['rwd_tier_dt'].dt.day, downcast='inte
ger', errors='ignore')

df['rwd_tier_dt_year'] = df['rwd_tier_dt_year'].fillna(-1)
df['rwd_tier_dt_year'] = df['rwd_tier_dt_year'].astype(int)

df['rwd_tier_dt_month'] = df['rwd_tier_dt_month'].fillna(-1)
df['rwd_tier_dt_month'] = df['rwd_tier_dt_month'].astype(int)

df['rwd_tier_dt_day'] = df['rwd_tier_dt_day'].fillna(-1)
df['rwd_tier_dt_day'] = df['rwd_tier_dt_day'].astype(int)

df = df[((df.rwd_tier_dt_month == 9) | (df.rwd_tier_dt_month == -1)) & \
        (df.rwd_tier_dt_year == 2016) | (df.rwd_tier_dt_year == -1)]
df = df.reset_index(drop=True)
df
```

Out[77]:

	vint_dt	pr_enrll_any	rwd_tier_dt	bl_3am_svm	cr_bl_3am_svm	mled_acc_ct_svm	meac
0	2016-09-06	N	NaT	123785.930000	118.550000	0	
1	2016-09-06	N	NaT	19110.590000	806.690000	0	
2	2016-09-02	Y	2016-09-02	254057.030000	0.000000	0	
3	2016-09-13	Y	2016-09-13	43878.320000	0.000000	0	
4	2016-09-06	N	NaT	44946.850000	0.000000	0	
5	2016-09-06	N	NaT	63489.020000	50482.650000	0	
6	2016-09-14	Y	2016-09-14	50479.080000	52.680000	0	
7	2016-09-06	N	NaT	26395.480000	14396.570000	0	
8	2016-09-02	Y	2016-09-02	103267.870000	0.000000	0	
9	2016-09-01	Y	2016-09-01	65479.480000	21826.120000	0	
10	2016-09-06	N	NaT	16709.460000	1254.420000	0	
11	2016-09-06	N	NaT	12906.960000	559.660000	0	
12	2016-09-09	Y	2016-09-09	38310.240000	0.000000	0	
13	2016-09-06	N	NaT	18187.850000	0.000000	0	
14	2016-09-06	N	NaT	29116.780000	0.000000	0	
15	2016-09-26	Y	2016-09-26	21553.560000	385.750000	0	
16	2016-09-30	Y	2016-09-30	50052.610000	0.000000	0	
17	2016-09-26	Y	2016-09-26	25094.940000	233.200000	0	
18	2016-09-03	Y	2016-09-03	121880.820000	769.280000	0	
19	2016-09-06	N	NaT	75954.640000	0.000000	0	
20	2016-09-06	N	NaT	59657.120000	0.000000	0	
21	2016-09-27	Y	2016-09-27	26160.930000	0.000000	0	
22	2016-09-06	N	NaT	450822.120000	0.000000	1	

	vint_dt	pr_enrll_any	rwd_tier_dt	bl_3am_svm	cr_bl_3am_svm	mled_acc_ct_svm	meac
23	2016-09-06	N	NaT	12470.010000	999.460000	0	
24	2016-09-06	N	NaT	291636.990000	280257.490000	0	
25	2016-09-28	Y	2016-09-28	300367.100000	130200.870000	0	
26	2016-09-16	Y	2016-09-16	272610.470000	194346.420000	0	
27	2016-09-06	N	NaT	38383.270000	0.000000	0	
28	2016-09-02	Y	2016-09-02	178038.880000	0.000000	0	
29	2016-09-06	N	NaT	14533.760000	33.380000	0	
...	...	...	...	...	...	...	
6528	2016-09-12	Y	2016-09-12	134257.460000	0.000000	0	
6529	2016-09-29	Y	2016-09-29	43243.650000	0.000000	0	
6530	2016-09-20	Y	2016-09-20	44206.930000	0.000000	0	
6531	2016-09-20	Y	2016-09-20	45662.490000	2506.760000	0	
6532	2016-09-08	Y	2016-09-08	109244.210000	0.000000	0	
6533	2016-09-10	Y	2016-09-10	25663.340000	299.860000	0	
6534	2016-09-02	Y	2016-09-02	42105.340000	0.000000	0	
6535	2016-09-21	Y	2016-09-21	24420.790000	847.400000	0	
6536	2016-09-08	Y	2016-09-08	261906.970000	192941.460000	1	
6537	2016-09-06	N	NaT	23131.440000	0.000000	0	
6538	2016-09-24	Y	2016-09-24	39681.210000	0.000000	0	
6539	2016-09-06	N	NaT	25666.640000	0.000000	0	
6540	2016-09-12	Y	2016-09-12	89703.950000	0.000000	0	
6541	2016-09-06	N	NaT	25112.410000	8406.130000	0	
6542	2016-09-23	Y	2016-09-23	63245.060000	0.000000	0	
6543	2016-09-24	Y	2016-09-24	37249.470000	239.710000	0	

	vint_dt	pr_enrll_any	rwd_tier_dt	bl_3am_svm	cr_bl_3am_svm	mled_acc_ct_svm	meac
6544	2016-09-29	Y	2016-09-29	352477.930000	276017.340000	0	
6545	2016-09-01	Y	2016-09-01	65882.490000	9877.970000	0	
6546	2016-09-30	Y	2016-09-30	87914.790000	0.000000	0	
6547	2016-09-06	N	NaT	43479.850000	870.480000	0	
6548	2016-09-06	N	NaT	43822.040000	0.000000	0	
6549	2016-09-06	N	NaT	161221.430000	0.000000	0	
6550	2016-09-12	Y	2016-09-12	24488.650000	0.000000	0	
6551	2016-09-06	N	NaT	278871.640000	804.190000	0	
6552	2016-09-16	Y	2016-09-16	22244.680000	50.000000	0	
6553	2016-09-06	N	NaT	17440.150000	1970.240000	0	
6554	2016-09-16	Y	2016-09-16	31629.270000	168.450000	0	
6555	2016-09-22	Y	2016-09-22	83532.340000	0.000000	0	
6556	2016-09-10	Y	2016-09-10	247899.460000	18274.000000	0	
6557	2016-09-30	Y	2016-09-30	36459.590000	253.920000	0	

6558 rows × 18 columns

In [78]:
```
df.groupby(['pr_enrll_any']).size().reset_index(name='counts')
```

Out[78]:

	pr_enrll_any	counts
0	N	2883
1	Y	3675

In [ ]:
```

```