

```
from pyspark.sql.functions import col, regexp_replace
```

Read from Bronze Delta Table

```
df_bronze =
```

```
spark.read.format("delta").load("/FileStore/lending/bronze/delta")
```

[illegible]

[illegible]

0.0	0.0	3.0	0.0	4.0	8.0
7.0	20.0	3.0	7.0	0.0	
0.0	0.0	0.0	0.0	96.0	
NULL	0.0	0.0	3400.0		3108.0
0.0	0.0	NULL			NULL
NULL	NULL	NULL	NULL		NULL
NULL	NULL	NULL		NULL	
NULL	N	NULL	NULL		NULL
NULL	NULL	NULL	NULL	NULL	
NULL	NULL	NULL	NULL		
NULL		NULL		NULL	NULL
Cash	N		NULL		NULL
NULL	NULL		NULL	NULL	
6311418	NULL	7125.0	7125.0	7125.0	36 months
15.88	250.08	C	C4	century concrete	10
RENT	30000.0	Not Verified	Jul-2013	Fully Paid	n
https://lendingcl...		Borrower added ...		other	
Other	236xx	VA 13.28	0.0	Jun-2000	
695.0	699.0	0.0		NULL	
93.0	8.0	1.0	3385.0	25.5	15.0
f	0.0	0.0	7220.924234675899		7220.92
7125.0	95.92		0.0	0.0	
0.0	Sep-2013	7220.52	NULL		Aug-2018
614.0		610.0		0.0	
NULL	1.0	Individual	NULL	NULL	
NULL	0.0	150.0	9090.0	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL
NULL	NULL	NULL	13300.0	NULL	NULL
NULL		5.0	1136.0	1842.0	29.2
0.0	0.0		81.0	159.0	
15.0	5.0	0.0		15.0	
NULL		15.0		NULL	
0.0	1.0		3.0	3.0	5.0
6.0	11.0		4.0	8.0	0.0
0.0	0.0		2.0		100.0
0.0	1.0	0.0		20200.0	9090.0
2600.0		6900.0	NULL		
NULL		NULL		NULL	
NULL	NULL		NULL	NULL	
NULL	NULL			NULL	
NULL		NULL		N	NULL
NULL	NULL	NULL	NULL		
NULL	NULL		NULL		NULL
NULL	NULL			Cash	
N		NULL	NULL		NULL
NULL	NULL	NULL			
6321535	NULL	24000.0	24000.0	24000.0	60 months

14.33	562.56	C	C2 Caddell Construct...	10
RENT	85000.0	Verified	Aug-2013 Fully Paid	n
https://lendingcl...	NULL	credit_card	Loan	
for life	351xx	AL 12.52	0.0	Jun-1998
695.0	699.0	0.0	NULL	
NULL	8.0	0.0	30048.0	68.4 15.0
f	0.0	0.0	31418.84	31418.84
24000.0	7418.84	0.0	0.0	
0.0	Apr-2016	13979.48	NULL	Apr-2016
734.0	730.0	0.0		
NULL	1.0	Individual	NULL	NULL
NULL	0.0	0.0	43016.0	NULL NULL
NULL	NULL	NULL	NULL	NULL NULL
NULL	NULL	NULL	43900.0	NULL NULL
NULL	2.0	5377.0	9236.0	76.3
0.0	0.0	123.0	184.0	
12.0	12.0	2.0	66.0	
NULL	12.0		NULL	
0.0	5.0	6.0	5.0	9.0 2.0
7.0	11.0	6.0	8.0	0.0
0.0	0.0	1.0	100.0	
80.0	0.0	0.0	58199.0	30048.0
38900.0	0.0	NULL		
NULL	NULL	NULL	NULL	
NULL	NULL	NULL	NULL	
NULL	NULL	NULL	NULL	
NULL	NULL	NULL	N	NULL
NULL	NULL	NULL	NULL	
NULL	NULL	NULL	NULL	
NULL	NULL	NULL	Cash	
N	NULL	NULL	NULL	
NULL	NULL	NULL		
6300526	NULL	24000.0	24000.0	24000.0 36 months
6.03	730.46	A	A Lexington family ...	10
MORTGAGE	114107.0	Verified	Jul-2013 Fully Paid	
n https://lendingcl...	Borrower added ...	credit_card		
Refinance loan	272xx	NC 7.08	0.0	Oct-1996
755.0	759.0	0.0	NULL	
NULL	11.0	0.0	29366.0	38.2 43.0
f	0.0	0.0	26296.2757411036	26296.28
24000.0	2296.28	0.0	0.0	
0.0	Aug-2016	730.17	NULL	Nov-2018
769.0	765.0	0.0		
NULL	1.0	Individual	NULL	NULL
NULL	0.0	0.0	286131.0	NULL NULL
NULL	NULL	NULL	NULL	NULL NULL
NULL	NULL	NULL	76900.0	NULL
NULL	3.0	26012.0	34634.0	45.9

0.0	0.0	132.0	204.0			
7.0	7.0	7.0	7.0			
NULL		7.0	NULL			
0.0	2.0	2.0	6.0	13.0	5.0	
10.0	31.0	2.0	11.0		0.0	
0.0	0.0	2.0	100.0			
0.0	0.0	0.0	336489.0		29366.0	
64000.0		0.0	NULL			
NULL		NULL	NULL			
NULL	NULL	NULL	NULL			
NULL	NULL		NULL			
NULL		NULL	N		NULL	
NULL	NULL	NULL	NULL			
NULL	NULL		NULL		NULL	
NULL	NULL				NULL	
NULL		NULL	Cash			
N	NULL	NULL	NULL		NULL	
NULL	NULL	NULL	NULL			
6301469	NULL	18000.0	18000.0	18000.0	60 months	
17.56	452.79	D	D1 McKenna Brothers ...		10	
MORTGAGE	50000.0	Source Verified	Aug-2013	Fully Paid		
n https://lendingcl...			NULL debt consolidation	Debt		
consolidation	338xx	FL 13.92	0.0	Jan-1999		
695.0	699.0	0.0		NULL		
NULL	9.0	0.0	10758.0	95.2	20.0	
f	0.0	0.0	27239.794818997		27239.79	
18000.0	9239.79	0.0	0.0			
0.0	Aug-2018	452.24	NULL		Feb-2019	
579.0		575.0	0.0			
NULL	1.0	Individual	NULL	NULL		
NULL	0.0	0.0	114474.0	NULL	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL
NULL	NULL	NULL	11300.0	NULL	NULL	
NULL		4.0	14309.0	85.0	97.9	
0.0	0.0		142.0		176.0	
19.0	13.0	4.0		148.0		
NULL		19.0		NULL		
0.0	3.0		6.0	4.0	6.0	5.0
7.0	11.0		6.0	9.0		0.0
0.0	0.0		0.0		100.0	
100.0		0.0	0.0		122916.0	
18193.0	4100.0			8596.0	NULL	
NULL		NULL		NULL		
NULL	NULL		NULL	NULL		
NULL	NULL			NULL		
NULL		NULL		N		NULL
NULL	NULL	NULL		NULL		NULL
NULL	NULL		NULL		NULL	
NULL		NULL				NULL


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+-----+-----+-----+-----+
+-----+-----+-----+-----+
|      id|member_id|loan_amnt|funded_amnt|funded_amnt_inv|      term|
int_rate|installment|grade|sub_grade|      emp_title|emp_length|
home_ownership|annual_inc|verification_status| issue_d|loan_status|
pymnt_plan|      url|      desc|
purpose|      title|zip_code|addr_state|  dti|delinq_2yrs|
earliest_cr_line|fico_range_low|fico_range_high|inq_last_6mths|
mths_since_last_delinq|mths_since_last_record|open_acc|pub_rec|
revol_bal|revol_util|total_acc|initial_list_status|out_prncp|
out_prncp_inv|      total_pymnt|total_pymnt_inv|total_rec_prncp|
total_rec_int|total_rec_late_fee|recoveries|collection_recovery_fee|
last_pymnt_d|last_pymnt_amnt|next_pymnt_d|last_credit_pull_d|
last_fico_range_high|last_fico_range_low|collections_12_mths_ex_med|
mths_since_last_major_derog|policy_code|application_type|
annual_inc_joint|dti_joint|verification_status_joint|acc_now_delinq|
tot_coll_amt|tot_cur_bal|open_acc_6m|open_act_il|open_il_12m|
open_il_24m|mths_since_rcnt_il|total_bal_il|il_util|open_rv_12m|
open_rv_24m|max_bal_bc|all_util|total_rev_hi_lim|inq_fi|total_cu_tl|
inq_last_12m|acc_open_past_24mths|avg_cur_bal|bc_open_to_buy|bc_util|
chargeoff_within_12_mths|delinq_amnt|mo_sin_old_il_acct|
mo_sin_old_rev_tl_op|mo_sin_rcnt_rev_tl_op|mo_sin_rcnt_tl|mort_acc|
mths_since_recent_bc|mths_since_recent_bc_dlq|mths_since_recent_inq|
mths_since_recent_revol_delinq|num_accts_ever_120_pd|num_actv_bc_tl|
num_actv_rev_tl|num_bc_sats|num_bc_tl|num_il_tl|num_op_rev_tl|
num_rev_accts|num_rev_tl_bal_gt_0|num_sats|num_tl_120dpd_2m|
num_tl_30dpd|num_tl_90g_dpd_24m|num_tl_op_past_12m|pct_tl_nvr_dlq|
percent_bc_gt_75|pub_rec_bankruptcies|tax_liens|tot_hi_cred_lim|
total_bal_ex_mort|total_bc_limit|total_il_high_credit_limit|
revol_bal_joint|sec_app_fico_range_low|sec_app_fico_range_high|
sec_app_earliest_cr_line|sec_app_inq_last_6mths|sec_app_mort_acc|
sec_app_open_acc|sec_app_revol_util|sec_app_open_act_il|
sec_app_num_rev_accts|sec_app_chargeoff_within_12_mths|
sec_app_collections_12_mths_ex_med|
sec_app_mths_since_last_major_derog|hardship_flag|hardship_type|
hardship_reason|hardship_status|deferral_term|hardship_amount|
hardship_start_date|hardship_end_date|payment_plan_start_date|
hardship_length|hardship_dpd|hardship_loan_status|
orig_projected_additional_accrued_interest|
hardship_payoff_balance_amount|hardship_last_payment_amount|
disbursement_method|debt_settlement_flag|debt_settlement_flag_date|

```

settlement_status	settlement_date	settlement_amount	settlement_percentage	settlement_term
6300587	NULL	12000.0	12000.0	12000.0
15.22	417.28	C	C3	NULL
MORTGAGE	42000.0	Source Verified	Jul-2013	Fully Paid
n https://lendingcl...		NULL	credit_card	Credit
Card Payoff	713xx	LA	3.8	0.0
670.0	674.0	0.0		33.0

NULL	7.0	0.0	3108.0	91.4	29.0		
f	0.0	0.0	13885.726104168401		13885.73		
12000.0	1864.87	20.860000009100002		0.0			
0.0	Nov-2014	108.83	NULL		Nov-2014		
619.0		615.0		0.0			
NULL	1.0	Individual		NULL	NULL		
NULL	0.0	0.0	3108.0		NULL	NULL	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	
NULL	NULL	NULL	3400.0	NULL	NULL		
NULL		2.0	1036.0		NULL	NULL	
0.0	0.0		141.0		204.0		
18.0	18.0	1.0		NULL			
NULL		18.0			33.0		
0.0	0.0		3.0	0.0	4.0	8.0	
7.0	20.0		3.0	7.0		0.0	
0.0		0.0		0.0	96.0		
NULL		0.0	0.0	3400.0		3108.0	
0.0		0.0		NULL		NULL	
NULL		NULL		NULL		NULL	
NULL		NULL		NULL		NULL	
NULL		NULL		NULL		NULL	
NULL	N		NULL	NULL		NULL	
NULL	NULL		NULL		NULL		
NULL	NULL		NULL		NULL		
NULL		NULL			NULL		
Cash		N		NULL		NULL	
NULL		NULL		NULL		NULL	
6311418	NULL	7125.0	7125.0	7125.0	36 months		
15.88	250.08	C	C4	century concrete	10		
RENT	30000.0	Not Verified	Jul-2013	Fully Paid	n		
https://lendingcl...		Borrower added ...		other			
Other	236xx	VA 13.28	0.0	Jun-2000			
695.0	699.0		0.0	NULL			
93.0	8.0	1.0	3385.0	25.5	15.0		
f	0.0	0.0	7220.924234675899		7220.92		
7125.0	95.92		0.0	0.0			
0.0	Sep-2013	7220.52	NULL		Aug-2018		
614.0		610.0		0.0			
NULL	1.0	Individual		NULL	NULL		
NULL	0.0	150.0	9090.0		NULL	NULL	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	
NULL	NULL	NULL	13300.0	NULL	NULL		
NULL		5.0	1136.0	1842.0	29.2		
0.0	0.0		81.0		159.0		
15.0	5.0	0.0		15.0			
NULL		15.0			NULL		
0.0	1.0		3.0	3.0	5.0	4.0	
6.0	11.0		4.0	8.0		0.0	
0.0		0.0		2.0	100.0		

0.0		1.0	0.0	20200.0	9090.0
2600.0			6900.0	NULL	
NULL		NULL		NULL	
NULL		NULL	NULL	NULL	
NULL		NULL		NULL	
NULL			NULL	N	NULL
NULL		NULL	NULL	NULL	
NULL		NULL		NULL	NULL
NULL		NULL			NULL
NULL			NULL	Cash	
N		NULL	NULL	NULL	NULL
NULL		NULL	NULL		
6321535	NULL	24000.0	24000.0	24000.0	60 months
14.33	562.56	C	C2 Caddell Construct...		10
RENT	85000.0	Verified	Aug-2013	Fully Paid	n
https://lendingcl...			NULL	credit_card	Loan
for life	351xx	AL 12.52	0.0	Jun-1998	
695.0	699.0	0.0		NULL	
NULL	8.0	0.0	30048.0	68.4	15.0
f	0.0	0.0		31418.84	31418.84
24000.0	7418.84		0.0	0.0	
0.0	Apr-2016	13979.48	NULL		Apr-2016
734.0		730.0		0.0	
NULL	1.0	Individual		NULL	NULL
NULL	0.0	0.0	43016.0	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL
NULL	NULL	NULL	43900.0	NULL	NULL
NULL		2.0	5377.0	9236.0	76.3
0.0	0.0	123.0		184.0	
12.0	12.0	2.0		66.0	
NULL		12.0		NULL	
0.0	5.0	6.0	5.0	9.0	2.0
7.0	11.0	6.0	8.0		0.0
0.0	0.0	1.0		100.0	
80.0		0.0	0.0	58199.0	30048.0
38900.0		0.0		NULL	
NULL		NULL		NULL	
NULL	NULL		NULL	NULL	
NULL	NULL			NULL	
NULL		NULL		N	NULL
NULL	NULL	NULL	NULL		
NULL	NULL		NULL		NULL
NULL		NULL		Cash	
N		NULL	NULL	NULL	NULL
NULL		NULL	NULL		
6300526	NULL	24000.0	24000.0	24000.0	36 months
6.03	730.46	A	A1 Lexington family ...		10
MORTGAGE	114107.0	Verified	Jul-2013	Fully Paid	

n https://lendingcl...	Borrower added ...	credit_card
Refinance loan	272xx	NC 7.08 0.0 Oct-1996
755.0	759.0	0.0 NULL
NULL	11.0 0.0 29366.0	38.2 43.0
f	0.0 0.0 26296.2757411036	26296.28
24000.0	2296.28	0.0 0.0
0.0	Aug-2016	730.17 NULL Nov-2018
769.0	765.0	0.0
NULL	1.0 Individual	NULL NULL
NULL	0.0 0.0 286131.0	NULL NULL
NULL	NULL	NULL NULL
NULL	NULL	76900.0 NULL NULL
NULL	3.0 26012.0	34634.0 45.9
0.0	0.0 132.0	204.0
7.0	7.0 7.0	7.0
NULL	7.0	NULL
0.0	2.0	2.0 6.0 13.0 5.0
10.0	31.0	2.0 11.0 0.0
0.0	0.0	2.0 100.0
0.0	0.0 0.0	336489.0 29366.0
64000.0	0.0	NULL
NULL	NULL	NULL
NULL	NULL	NULL
NULL	NULL	NULL
NULL	NULL	N NULL
NULL	NULL	NULL
NULL	NULL	NULL
NULL	NULL	NULL
NULL	NULL	Cash
N	NULL	NULL
NULL	NULL	NULL
6301469	NULL 18000.0	18000.0 18000.0 60 months
17.56	452.79 D	D1 McKenna Brothers ... 10
MORTGAGE	50000.0	Source Verified Aug-2013 Fully Paid
n https://lendingcl...	NULL	debt_consolidation Debt
consolidation	338xx	FL 13.92 0.0 Jan-1999
695.0	699.0	0.0 NULL
NULL	9.0 0.0 10758.0	95.2 20.0
f	0.0 0.0 27239.794818997	27239.79
18000.0	9239.79	0.0 0.0
0.0	Aug-2018	452.24 NULL Feb-2019
579.0	575.0	0.0
NULL	1.0 Individual	NULL NULL
NULL	0.0 0.0 114474.0	NULL NULL
NULL	NULL	NULL NULL
NULL	NULL	11300.0 NULL NULL
NULL	4.0 14309.0	85.0 97.9
0.0	0.0 142.0	176.0
19.0	13.0 4.0	148.0

[illegible]