With this I’ll calculate unpaids for the following example as below

Unpaid date unpaid amount closing balance

15-May-24 44.96 -1091.23

16-Apr-24 120.77 -1084.03

25-Mar-24 48.39 -1058.96

12-Feb-24 10.00 -1096.17

15-Jan-24 25.00 -1094.20

02-Jan-24 25.00 -1099.27

27-Nov-23 40.00 -1046.26

16-Oct-23 42.74 -1096.55

26-Sep-23 56.10 -1077.72

25-Aug-23 40.00 -1056.01

14-Jul-23 37.00 -1022.28

15-Jun-23 237.00 -1069.05

Dispute amount dispute date

15 28-May-24

15 05-Apr-24

15 26-Feb-24

15 05-Feb-24

15 27-Dec-23

15 27-Nov-23

15 09-Nov-23

15 26-Sep-23

15 11-Sep-23

15 26-Jul-23

15 26-Jun-23

15 26-May-23

Step 1: If the previous day's closing balance is greater than or equal to the unpaid amount, output "No".

Step 2: If the sum of the previous day's closing balance and the limit amount is greater than or equal to the unpaid amount, output "No".

Step 3: If the sum of the previous day's closing balance, the limit amount, and the remaining balance is greater than or equal to the unpaid amount, output "Yes" and update the remaining balance.

Step 4: If the sum of the previous day's closing balance, the limit amount, the remaining balance, and the relevant total disputed amount is greater than or equal to the unpaid amount, output "Yes" and update the remaining balance.

Final Step: If none of the above conditions are met, output "No" and update the remaining balance.

Note:

1. Relevant dispute means, all the unutilized dispute transactions happened before the unpaid date. Utilized dispute amounts means, the amount which were already taken for calculation in the step 4. You can find this with more clarity in below example.
2. Remaining balance should be calculated according to some conditions.
3. If step 3 comes True, remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance) - unpaidsAmount
4. If step 4 comes True, remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount
5. If step 4 comes False, remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount)

Solution:

1. 15-Jun-23

Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1069.05>=237 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1069.05+1100)>=237 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1069.05+1100+0)>=237 => False, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1069.05+1100+0+**15**)>=237 => False, so “No”

Note: **15-** This is the relevant disputed amount which is on 26-may-23(unutilized dispute transactions happened before the current unpaid date)

1. 14-Jul-23

Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1022.28>=37 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1022.28+1100)>=37 => True, so “No”

1. 25-Aug-23  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1056.01>=40 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1056.01+1100)>=40 => True, so “No”

1. 26-Sep-23  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1077.72>=56.10 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1077.72+1100)>=56.10 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1069.05+1100+0)>=56.10 => True, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1069.05+1100+**60**)>=56.10 => True, so “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount

Note: **60-** This is the relevant disputed amount which is on 26-may-23, 26-jun-23, 26-jul-23, 11-sep-23(unutilized dispute transactions happened before the current unpaid date)

Now, 26-may-23, 26-jun-23, 26-jul-23, 11-sep-23 – these dispute transaction’s amounts are used for calculation of relevant disputed amounts. So, these won’t be considered for calculation of relevant disputed amounts in future and marked as Utilized dispute amounts.

1. 16-Oct-23  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1096.55>=42.74 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1096.55+1100)>=42.74 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1096.55+1100+26.18)>=42.74 => False, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1096.55+1100+26.18+**15**)>=42.74 => True, so “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount

Note: **15-** This is the relevant disputed amount which is on 26-sep-23(unutilized dispute transactions happened before the current unpaid date).

Now, the dispute amount on 26-sep-23 also used, hence mark it as utilized.

1. 27-Nov-23  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1046.26>=40 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1046.26+1100)>=40 => True, so “No”

1. 02-Jan-24  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1099.27>=25 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1099.27+1100)>=25 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1099.27+1100+1.89)>=25 => False, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1099.27+1100+1.89+**45**)>=25 => True, so “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount

Note: **45-** This is the relevant disputed amount which is on 09-nov-23, 27-nov-23, 27-dec-23(unutilized dispute transactions happened before the current unpaid date).

Now, the dispute amounts on 09-nov-23, 27-nov-23, 27-dec-23 also used, hence mark it as utilized.

1. 15-Jan-24  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1094.20>=25 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1094.20+1100)>=25 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1094.20+1100+22.62)>=25 => True, so step “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance) - unpaidsAmount

1. 12-Feb-24  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1096.17>=10 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1096.17+1100)>=10 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1096.17+1100+3.42)>=10 => False, so step step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1099.27+1100+3.42+**15**)>=10 => True, so “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount

Note: **15-** This is the relevant disputed amount which is on 05-feb-24(unutilized dispute transactions happened before the current unpaid date).

Now, the dispute amounts 05-feb-24 also used, hence mark it as utilized.

1. 25-Mar-24  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1058.96>=48.39 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1058.96+1100)>=48.39 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1058.96+1100+12.25)>=48.39 => True, so step “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance) - unpaidsAmount

1. 16-Apr-24  
   Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1084.03>=120.77 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1084.03+1100)>=120.77 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1084.03+1100+4.9)>=120.77 => False, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1084.03+1100+4.9+**30**)>=120.77=> False, so “No”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount)

Note: **30-** This is the relevant disputed amount which is on 26-feb24, 05-apr-24 (unutilized dispute transactions happened before the current unpaid date).

Now, the dispute amounts 26-feb24, 05-apr-24 also used, hence mark it as utilized.

1. 15-May-24

Step 1- previousDayClosingBalance >= unpaidsAmount, Then “No”

-1091.23>=44.96 => False, so step 2

Step 2- (previousDayClosingBalance + limitAmount) >= unpaidsAmount, Then “No”

(-1091.23+1100)>=44.96 => False, so step 3

Step 3- (previousDayClosingBalance + limitAmount + remainingBalance) >= unpaidsAmount

(-1091.23+1100+34.9)>=44.96 => False, so step 4

Step 4- (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) >= unpaidsAmount

(-1091.23+1100+34.9+**15**)>=44.96 => True, so “Yes”

remainingBalance = (previousDayClosingBalance + limitAmount + remainingBalance + totalDisputedAmount) – unpaidsAmount

Note: **15-** This is the relevant disputed amount which is on 28-may-24 (unutilized dispute transactions happened before the current unpaid date).

Now, the dispute amounts 28-may-24 also used, hence mark it as utilized.