netzary

You can choose to write this as a Django App or as ReactJS/Redux App. No other programming languages are allowed.

We expect you to design a simple form page to execute the functionaility, where input will be as per the problem.

Rules: No additional Libraries in Django. If you are using ReactJS, the total solution should be written in ReactJS/ Javascript across both client and server. Also send instructions if needed for hosting the same

We will assess potential candidates based on their comprehension skills,

Problem Statement

Sudarshan Gupta is a Pawn Broker based in Malleshwaram and he runs several Pawn Broker business in Bangalore (he mortgages gold for money on interest) which operates on traditional Rupee Interest calculation mechanism, he wants to automise all his shops, he has approached Netzary for Mobile Application

Input Parameters: Start Date, End Date, Principal, Interest (optional). If Interest is provided and if other conditions do not clash, the interest amount can be accepted. Interest amounts to be input only as monthly interest.

Conditions for interest calculations are

1. Number of Days in any given month is 30 Days

2. Number of Days in any given Year is 360 Days

3. Two Rupee Interest means Rs. 2 will be charged as Interest for every Rs. 100 lent

4. Three Rupee Interest means Rs. 3 will be charged as Interest for every Rs. 100 lent

5. Interest rate if the principal is less than or equal to Rs. 5000 then he charges Three Rupee Interest

6. If the principal is greater than or equal to Rs. 5001 then he charges Two Rupee Interest

7. Charge Full month interest if the number of Days are less than 30

8. If the number of days are less than 1 year (360 Days) then apply simple interest

9. If the number of days are more than 1 year (360 Days) then apply Compounding on a yearly basis

To explain the interest calculation Sudarshan Gupta has provided following examples

Scenario 1

Release Date: 7th Dec 2020

Loan Date: 3rd May 2020

Principal: Rs. 8000

Date Subtraction is calculated as follows

07-12-2020

03-05-2020

04-07-0000

ie., 0 Years,7 Months & 4 Days

Principal Rs. 8000 is greater than Rs. 5000 hence Two Rupee Interest has to be charged

Interest Rate Per Month = No. of 100s in Principal * Interest Rate = (8000/100)*2 = Rs. 160

Interest Rate for 7 Months = Interest Rate Per Month * No. of Months = 160 * 7 = Rs. 1120

Interest Rate for 4 Days = (Interest Rate per month/30) * No. of Days = (160/30) * 4 = 21.33

Total Interest to be paid after 7 Months & 4 Days = 1120 + 21.33 = Rs. 1141.33

Grand Total = Principal + Interest = 8000 + 1141.33 = **Rs. 9141.33**

Scenario 2

Release Date: 7th Dec 2020

Loan Date: 30th Jan 2020

Principal: Rs. 5000

Date Subtraction is calculated as follows

07-12-2020

30-01-2020

07-10-0000

ie., 0 Years,10 Months & 7 Days

Principal is Exactly Rs. 5000 hence Three Rupee Interest has to be charged

Interest Rate Per Month = No. of 100s in Principal * Interest Rate = (5000/100) * 3 = Rs. 150

Interest Rate for 10 Months = Interest Rate Per Month * No. of Months = 150 * 10 = Rs. 1500

Interest Rate for 7 Days = (Interest Rate per month/30) * No. of Days = (150/30) * 7 = 35

Total Interest to be paid after 10 Months & 7 Days = 1500 + 35 = Rs. 1535

Grand Total = Principal + Interest = 5000 + 1535 = **Rs. 6535**

Scenario 3

Release Date: 7th Dec 2020

Loan Date: 30th Jan 2019

Principal: Rs. 5000

Date Subtraction is calculated as follows

07-12-2020

30-01-2019

07-10-0001

ie., 1 Years,10 Months & 7 Days

Time Period is greater than one year so first calculation has to be done for Year ONE compound (add it with principal)

& then calculate interest once again for 10 months & 7 Days for the compounded amount

Principal is Exactly Rs. 5000 hence Three Rupee Interest has to be charged

Compounding for 1st Year, Principal & Interest for the End of year i.e., till 30th Jan 2020 will be

30-01-2020

30-01-2019

00-00-0001

ie., 1 Years = 12 Months

Interest Rate Per Month = No. of 100s in Principal * Interest Rate = (5000/100) * 3 = Rs. 150

Interest Rate for 12 Months = Interest Rate Per Month * No. of Months = 150 * 12 = Rs. 1800

Grand Total end of Year One = Principal + Interest = 5000 + 1800 = **Rs. 6800**

New principal has become Rs. 6800

For remaining period 10 Months & 7 Days Interest Calculation are as follows

07-12-2020

30-01-2020

07-10-0000

ie., 0 Years,10 Months & 7 Days

Interest Rate Per Month = No. of 100s in Principal * Interest Rate = (6800/100) * 3 = Rs. 204

Interest Rate for 10 Months = Interest Rate Per Month * No. of Months = 204 * 10 = Rs. 2400

Interest Rate for 7 Days = (Interest Rate per month/30) * No. of Days = (204/30) * 7 = Rs. 47.6

Total Interest to be paid after 10 Months & 7 Days = 2400 + 47.6 = Rs. 2447.6

Grand Total = Principal + Interest = 6800 + 2447.6 = **Rs. 9247.6**

You will need to write a comprehensive piece of program which will involve 2 functions that will calculate date difference based on the Baddi calculations as explained above.

You will need to then calculate interest accumulated based on any two dates given 1) for release date of gold 2) the date of pledging the gold