

Problem:

You run a small business, and you want to analyze your cash flow for the next 12 months. Each month, you expect some inflows and outflows of cash. Your goal is to calculate:

The net cash flow for each month. The cumulative cash balance over time. Identify any months where your cash balance becomes negative. Here's a breakdown of the problem:

You are provided with two lists: A list of cash inflows for 12 months. A list of cash outflows for 12 months. You start with an initial balance of Rs.10,000. You need to compute:

Monthly net cash flow (inflow - outflow). Monthly cash balance. Highlight months where the cash balance becomes negative.

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In [8]: # Data: Inflows and Outflows for each month (for simplicity, use sample data)
cash_inflows = [5000, 7000, 6000, 8000, 7500, 5000, 4500, 5200, 6100, 7200, 6700, 7000]
cash_outflows = [4000, 6500, 5500, 7000, 8000, 6000, 5000, 4800, 5900, 6400, 6300, 6800]

# Starting balance
initial_balance = 10000

# Initialize lists for storing results
net_cash_flow = []
cash_balance = []

# Loop through each month to calculate net cash flow and balance
balance = initial_balance
for i in range(12):
    # Calculate the net cash flow (inflow - outflow)
    net_flow = cash_inflows[i] - cash_outflows[i]
    net_cash_flow.append(net_flow)

    # Update balance for the month
    balance += net_flow
    cash_balance.append(balance)

# Print Results
print("Month\tInflows\tOutflows\tNet Flow\tBalance")
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for i in range(12):
    print(f"{i+1}\tRs.{cash_inflows[i]}\tRs.{cash_outflows[i]}\t\tRs.{net_cash_flow[i]}\t\tRs.{cash_balance[i]}")

# Highlight months where the balance is negative
negative_months = [i+1 for i in range(12) if cash_balance[i] < 0]
if negative_months:
    print("\nWarning: Negative cash balance in months:", negative_months)
else:
    print("\nNo months with negative cash balance.")

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Month	Inflows	Outflows	Net Flow	Balance
1	Rs.5000	Rs.4000	Rs.1000	Rs.11000
2	Rs.7000	Rs.6500	Rs.500	Rs.11500
3	Rs.6000	Rs.5500	Rs.500	Rs.12000
4	Rs.8000	Rs.7000	Rs.1000	Rs.13000
5	Rs.7500	Rs.8000	Rs.-500	Rs.12500
6	Rs.5000	Rs.6000	Rs.-1000	Rs.11500
7	Rs.4500	Rs.5000	Rs.-500	Rs.11000
8	Rs.5200	Rs.4800	Rs.400	Rs.11400
9	Rs.6100	Rs.5900	Rs.200	Rs.11600
10	Rs.7200	Rs.6400	Rs.800	Rs.12400
11	Rs.6700	Rs.6300	Rs.400	Rs.12800
12	Rs.7000	Rs.6800	Rs.200	Rs.13000

No months with negative cash balance.

Explanation: cash_inflows and cash_outflows are the monthly inflows and outflows respectively. We calculate the net_cash_flow by subtracting outflows from inflows. We update the cash_balance by adding the net cash flow to the previous balance. Finally, we print the monthly details and warn the user if the cash balance goes negative in any month.

You can adjust the cash_inflows and cash_outflows lists as per your data. This script will help analyze cash flow and detect any potential liquidity issues.

In []: