**QUESTION 1:**

**IPO CHART:**

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| Country choice (1 or 2) | Use switch-case to set selectedCountry | Selected country name |
| Current hour | Check if hour > 20 then block transaction | Allowed / Blocked message |
| Amount, Flag | Deduct from Max\_Limit, track transactions | Transaction result and remaining limit |

**PAC CHART:**

| **Given Data (P)** | **Required Result** | **Processing Required (A)** | **Solution / Alternative (C)** |
| --- | --- | --- | --- |
| **Max\_Limit = 10000** (daily limit) | Deduct entered amounts until limit reached | Subtract Amount from Max\_Limit after each transaction | Use variable Max\_Limit and update after each transaction |
| **Country Choice (Pakistan/UAE)** | Display transaction success message for chosen country | Use switch to set selectedCountry | Case 1: Pakistan; Case 2: UAE; Default: Invalid |
| **hour (0–23)** | Restrict transactions after 8 pm | IF hour > 20 then stop | Check with if (hour > 20) and exit |
| **Amount (transaction)** | Deduct from Max\_Limit, warn if >5000 | Compare Amount with Max\_Limit and >5000 | If >5000 print “Unusual transaction warning”; If ≤Max\_Limit deduct from Max\_Limit |
| **num\_Of\_Transactions (counter)** | Limit number of transactions to 3 | Increment counter after each transaction | If counter ≥3 then stop program |
| **Flag (exit indicator)** | Let user exit voluntarily | Ask after each transaction “type 1 to exit or 0 to continue” | If Flag==1 exit loop, otherwise continue |
| **Output Messages** | Display remaining limit, warnings, and thank-you message | Format printf statements accordingly | Provide different messages for each scenario |

**ALGORITHM:**Algorithm:

1. Start  
2. Ask the user to select a country (Pakistan or UAE)  
3. Ask the user to input the current hour  
4. If the hour > 20, display "Transactions not allowed after 8 pm" and stop  
5. Ask the user to input amount  
6. Deduct the amount from Max\_Limit  
7. Keep track of number of transactions  
8. Ask user if they want to exit (Flag = 1 to exit)  
9. If Max\_Limit is exhausted or max transactions reached, stop  
10. End

**FLOWCHART:**

START

Max\_Limit = 10000

Transaction Count = 0

INPUT Country   
   
   
INPUT Hour

If hour

> 20 then

NO

INPUT Amount

Is Amount < No

Max\_Limit

Yes

Max\_Limit = Max\_Limit - Amount

Ask Flag (1 to

Exit or 0 to continue)

No  
If Max\_Limit reached max transactions reached -

Yes

**PSEUDOCODE:**

Max\_Limit = 10000

num\_Of\_Transactions = 0

Flag = 0

OUTPUT "Select your country:"

OUTPUT "1. Pakistan"

OUTPUT "2. UAE"

INPUT choice

SWITCH choice

CASE 1:

selectedCountry = "Pakistan"

CASE 2:

selectedCountry = "UAE"

DEFAULT:

OUTPUT "Invalid choice"

END SWITCH

OUTPUT "Enter current hour (0-23):"

INPUT hour

IF hour > 20 THEN

OUTPUT "Transactions are not allowed after 8 pm."

ENDIF

DISPLAY "Enter the amount:"

INPUT Amount

WHILE Amount < Max\_Limit AND Flag == 0 DO

IF Amount > 5000 THEN

OUTPUT"Warning: Unusual transaction amount!"

ENDIF

Max\_Limit = Max\_Limit - Amount

num\_Of\_Transactions = num\_Of\_Transactions + 1

OUTPUT "Your transaction is successful in", selectedCountry

OUTPUT "You still have", Max\_Limit, "limit left."

IF num\_Of\_Transactions >= 3 THEN

OUTPUT "You have reached the maximum number of transactions allowed (3)"

BREAK

ENDIF

OUTPUT "If you want to exit type 1 (otherwise type 0):"

INPUT Flag

IF Flag == 0 THEN

OUTPUT "Enter next amount:"

INPUT Amount

ENDIF

END WHILE

IF Amount >= Max\_Limit THEN

IF Amount == Max\_Limit THEN

OUTPUT "Your transaction is successful but you have no limit left."

ELSE

OUTPUT "You have reached your daily limit!!!"

ENDIF

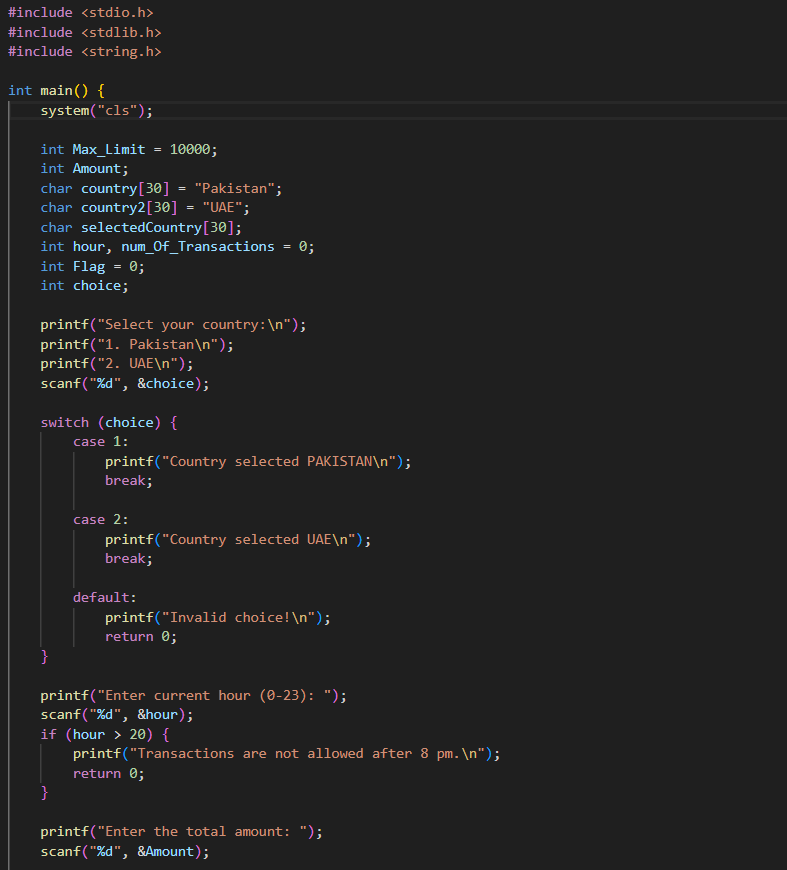
ELSE IF Flag == 1 THEN

OUTPUT "THANK YOU FOR USING!!"

ENDIF

END

**C CODE:**

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