**QUESTION 1:**

**IPO CHART:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Process** | **Output** |
| Country choice  Current hour  Amount, Flag | Use switch for Country Choice  Check hour > 20(block transaction)  Deduct in MaxLimit  Limit Transactions | Selected country name  Allowed / Blocked Transaction result  Remaining limit |

**PAC CHART:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Given Data (P)** | **Required Result** | **Processing Required (A)** | **Solution / Alternative (C)** |
| **MaxLimit = 10000** (daily limit) | Deduct entered amounts until limit reached | Subtract Amount from MaxLimit after each transaction | Use variable MaxLimit 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 MaxLimit, warn if >5000 | Compare Amount with MaxLimit and >5000 | If >5000 print “Unusual transaction warning”; If ≤MaxLimit deduct from MaxLimit |
| **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:**

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 MaxLimit  
7. Keep track of number of transactions  
8. Ask user if they want to exit (Flag = 1 to exit)  
9. If MaxLimit is reached, stop  
10. End

**FLOWCHART:**

START

MaxLimit = 10000

Transaction Count = 0

INPUT Country   
   
   
INPUT Hour

If hour

> 20 then

NO

INPUT Amount

Is Amount < No

MaxLimit

Yes

MaxLimit = MaxLimit - Amount

Ask Flag (1 to

B

Exit or 0 to continue)

C

A

B

C

A

Yes  
If MaxLimit reached max transactions reached -

No

**PSEUDOCODE:**

MaxLimit = 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 < MaxLimit AND Flag == 0 DO

IF Amount > 5000 THEN

OUTPUT"Warning: Unusual transaction amount!"

ENDIF

Max\_Limit = MaxLimit - Amount

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

OUTPUT "Your transaction is successful in", selectedCountry

OUTPUT "You still have", MaxLimit, "limit left."

IF num\_Of\_Transactions >= 3 THEN

OUTPUT "You 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 >= MaxLimit THEN

IF Amount == MaxLimit 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

ENDIF

IF

A screenshot of a computer program

AI-generated content may be incorrect.**C CODE:**

A screenshot of a computer program

AI-generated content may be incorrect.

A computer screen shot of a black screen

AI-generated content may be incorrect.