Charge Account
Validation Modification
Flowchart

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Created On: July 24, 2017, 3:52 PM
Purpose: Charge Account Validation
Modfication

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System Libraries
iostream (Input-Output Library)
Standard Namespace

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User Libraries
none

↓

Global Constants
SIZE = 18

↓

Function Prototypes
none

↓

main

↓

(A)

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Declare and Initialize Variables Here
ticks [SIZE] = {5658845, 4520125,
7895122, 8777541, 8451277, 1302850,
8080152, 4562555, 5552012, 5050552,
7825877, 1250255, 1005231, 6545231,
3852085, 7576651, 7881200, 4581002}

userIpt

↓

Output
Information about what
program does

↓

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Prompt for Input
userIpt

Declare and Initialize Variables Outside of For Loop
found = false
index
scan
minIdx
lowest = 0
highest = SIZE - 1
middle

Initialize Variable Inside For Loop
scan = 0

scan < SIZE - 1

True

Initialize Variables
minIdx = scan
minVal = accNum[scan]

Initialize Variable Inside for Loop
index = scan + 1

index < SIZE

True

accum [index] < minVal

True

Initialize Variables
minVal = accNum[index]
minIdx = index

False

Increment Counter
index++

Initialize Variables
accNum[minIdx] = accNum[scan]

accNum[scan] = minVal

False

Increment Counter
scan ++

False

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lowest <= highest && !found

— True → **Initialize Variables** middle = (highest + lowest)/2 → **accNum[middle] > userIpt**

accNum[middle] > userIpt — False → **accNum[middle] == userIpt** — False → **Initialize Variables** lowest = middle + 1

accNum[middle] > userIpt — True → **Initialize Variables** highest = middle - 1

accNum[middle] == userIpt — True → **Initialize Variables** found = true

found

— True → **Output** "Entered number is valid" → Exit from main return 0

— False → **Output** "Entered number is invalid" → Exit from main return 0