

BANK ACCOUNT - PYTHON MODEL ANSWER

```
AccID = int(input("Please enter your account number: "))
Valid = False
if AccID < 0 or AccID >= Size:
    print("Invalid Account Number")
else:
    Name = input("Please enter name: ")
    Password = input("Please enter password: ")
    if Name != Account[AccID][0] or Password != Account[AccID][1]:
        print("Invalid name or password.")
    else:
        Valid = True
if Valid == True:
    Choice = 0
    while Choice != 4:
        print("Menu\n 1. Display balance\n 2. Withdraw money\n 3. Deposit money\n 4. Exit")
        Choice = int(input("Please choose 1, 2, 3 or 4: "))
        if Choice == 1:
            print("Your balance is", AccDetails[AccID][0])
        elif Choice == 2:
            Amount = -999.99 # initialising value so loop happens at least once
            while (Amount > AccDetails[AccID][2] or Amount < 0 or
                    Amount > AccDetails[AccID][1] + AccDetails[AccID][0]):
                Amount = float(input("Please enter amount to withdraw: "))
                if Amount > AccDetails[AccID][2]:
                    print("Amount greater than withdrawal limit.")
                if Amount > AccDetails[AccID][1] + AccDetails[AccID][0]:
                    print("Amount greater than cash available.")
                if Amount <= AccDetails[AccID][2] and
                    Amount < AccDetails[AccID][1] + AccDetails[AccID][0]:
                    AccDetails[AccID][0] -= Amount #decrement by the value of Amount
                    print(Amount, "has been withdrawn")
            elif Choice == 3:
                Amount = -999.99
                while Amount <= 0:
                    Amount = float(input("Please enter a positive amount to deposit: "))
                AccDetails[AccID][0] += Amount
            elif Choice == 4:
                Exit = True
                print("Goodbye")
            else:
                print("Invalid choice")
        else:
            print("Goodbye")
```

BANK ACCOUNT - PSEUDOCODE MODEL ANSWER

```
OUTPUT "Please enter your account number: "
INPUT AccID
Valid <- FALSE
IF AccID < 0 OR AccID > Size THEN
    OUTPUT "Invalid Account Number"
ELSE
    OUTPUT "Please enter name: "
    INPUT Name
    OUTPUT "Please enter password: "
    INPUT Password
    IF Name <> Account[AccID, 1] OR Password <> Account[AccID, 2] THEN
        OUTPUT "Invalid name or password."
    ELSE
        Valid <- TRUE
    ENDIF
ENDIF
IF Valid THEN
    REPEAT
        OUTPUT "Menu"
        OUTPUT "1. Display balance"
        OUTPUT "2. Withdraw money"
        OUTPUT "3. Deposit money"
        OUTPUT "4. Exit"
        OUTPUT "Please choose 1, 2, 3 or 4: "
        INPUT Choice
        CASE OF Choice
            1 : OUTPUT "Your balance is", AccDetails[AccID, 1]
            2 : REPEAT
                OUTPUT "Please enter amount to withdraw: "
                INPUT Amount
                IF Amount > AccDetails[AccID,3] THEN
                    OUTPUT "Amount greater than withdrawal limit."
                ENDIF
                IF Amount > AccDetails[AccID,2] + AccDetails[AccID,1] THEN
                    OUTPUT "Amount greater than cash available."
                ENDIF
                IF Amount <= AccDetails[AccID,3] AND Amount < AccDetails[AccID,2] +
                    AccDetails[AccID,1] THEN
                    AccDetails[AccID,1] <- AccDetails[AccID,1] - Amount
                ENDIF
                UNTIL Amount <= AccDetails[AccID,3] AND Amount > AccDetails[AccID,2] +
                    AccDetails[AccID,1] AND Amount > 0
            3 : REPEAT
                OUTPUT "Please enter a positive amount to deposit: "
                INPUT Amount
                UNTIL Amount > 0
                AccDetails[AccID,1] <- AccDetails[AccID,1] + Amount
            4 : Exit <- TRUE
            OTHERWISE OUTPUT "Invalid choice"
        ENDCASE
        UNTIL Choice = 4
    ELSE
        OUTPUT "Goodbye."
    ENDIF
```