INDEX PG.NO

ACKNOWLEDGEMENT

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We thank her for encouraging and supporting us.

This project was not the result of a single individual's effort. It has

been completed with the cooperation and determination of me and

my friends, without whom this project could not be completed.

We also wish to express our thanks to all our parents for supporting us and encouraging us throughout this project.

MODULES USED

Os	This module provides a unified interface to a number of operating system functions.
Pickle	This module implements a fundamental but powerful algorithm for serializing and de-serializing a Python object structure.
Tabulate	This module is used to represent data in the form of tables.
Tkinter	This module can be used to form buttons or any graphical user interface object .
Time	This module provides functions for working with times, and for converting between representations.
Random	This module implements pseudo-random number generators for various distributions.

CLASSES

1.Customer: - This class is used for creation of user account and taking input of general information of the customer. It also provides an update function to modify account information and displays necessary account information.

2. Loans: - This Class provides the user with 3 loan types being gold loan, home loan and car loan. In each loan function, interest is calculated depending on principle amount and repayment duration and the ideal package is provided to the customer.

FILES

Account.dat :- It is a Binary File for different users and for storing their respective information.

Temp.dat :- Temporary binary file to store interchangeable data.

Loan.dat :- It is a Binary file which stores Loan Information of the all the users registered with an account in the bank.

FUNCTIONS

a. **user_pass():-** Enter your registration details to create an account
b. **getdata():-**Enter the User Details/Information
c. **update():-**It is used to update account informations
d. **display():-** It uses tkinter module to diplay account details of the user
e. **MobileBill():-** Used to calculate mobile bill amount after deduction of discount depending on debit card package.
f. **MovieTicket():-**Used to calculate total ticket amount after deduction of discount depending on debit card package, no of tickets and seat type(Standard/Vip).
g. **AirTicket():-**Used to calculate Air ticket amount after deduction of discount depending on debit card package ,no of tickets flying class(Economy/Business/Firstclass)
h. **carloan():-** Used to calculate the amount to be repaid to bank based on principle amount,rate of interest and mode of repayment(monthly/every 3 months).
i. **GoldLoan():-**Used to calculate the amount to be repaid to bank based on grams of gold deposited,carat,rate of interest and mode of repayment(monthly/every 3 months).
j. **HomeLoan():-**Used to calculate the amount to be repaid to bank based on principle amount, Collateral Documents, rate of interest and mode of repayment(monthly/every 3 months).
k. **newaccount():-**Used to create a new account for the person

l. **existing():**-Used to search and load the customer data based on previously given account number and password(which was entered by user at the time of creation of account) then perform further transactions

m. **admin():**-Used to view all the customer's account number, name, password and balance.

Algorithm

- user_pass():
    1. Start
    2. Take input of username and password
    3. Check for exceptions and display message depending on the error
    4. Take input for password confirmation after handling all exceptions
    5. Print "Succesfully Logged In"
    6. Stop.

- getdata(self):
    1. Start
    2. Print "The Following Info is Mandatory"
    3. Take Input of name,gender,address,phno,pobox
    4. Using random.randint() generate a unique accno for the user

5. Print "Please note your a/c no. here"
6. print "Dear"',self.name ,"we require more details for the creation of your a/c. Do you wish to add your details now or later?"
7. If yes,take input of designation,workplace,email-id and dob.
8. Print debit card package information
9. Take Input of user income and assign Silver/Gold/Platinum card depending on income amount
10. Stop

- update(self):
    1. Start
    2. print "Please note that Account type, Account number and balance cannot be updated."
    3. print "Only personal details can be updated"
    4. Take new input for income,email-id,dob,residence,designation,workplace and mobileno
    5. Stop.

- display(self):
    1. Start
    2. Invoke Tkinter module using a variable 'root'
    3. Set geometry as '500X500'
    4. Set frame width as '400' and frame height as '250'

5. Set fore-ground color as blue and red for displaying Name,accno and balance
6. Set fg colour as “green” for Label 1 - Label 14 & set fg colour as “blue” for Label 15 – Label 28.
7. Stop.

- MobileBill(self):
  1. Start
  2. Take input for Mobile Bill Amount
  3. Depending on Income Amount display("Silver card benefit: 15 percent off ","Gold card benefit: 20 percent off ","Platinum card benefit: 30 percent off ")
  4. Calculate discount on each card type
  5. Return new bill amount after deduction of discount
  6. Stop.

- MovieTicket(self):
  1. Start
  2. Assign amt =0
  3. Take input for number of seats
  4. Take input of seat type as standard or vip within the for-loop
  5. If seat is “standard” ,increase amt by 35 else if seat is “vip”,increase amt by 50

6. Depending on income amount print ("Gold card benefit: 40 percent off ","Platinum card benefit: 50 percent off ")
7. Calculate discount on each card type
8. print "thankyou for using MAZE bank for making tansactions!"
9. Print new bill amount after deduction of discount

10.Stop

- AirTicket(self):
    1. Start
    2. Take input for number of seats
    3. Assign amt=0
    4. Take Input for Flight class within for-loop
    5. If class is "Economy" ,increase amt by 1200 elif class is "Business", increase amt by 1600 and if class is "First-class", increase amt by 2000
    6. If income amount is greater than 40000, print "Platinum card Benefit: 15 percent off "
    7. Calculate discount
    8. Print "thank you for using MAZE bank for making transactions!"
    9. print final amount after deduction of discount

    10.Stop

- carloan(self):

  1. Start
  2. Take Loan amount as input
  3. Take input of number of years
  4. Calculate total interest using rate of interest as “0.08”
  5. Display total interest and display Total amount(t) to be repaid
  6. Take Input of Mode of Repayment (‘Monthly or every 3 Months’)with opt as “1” or “3”
  7. If opt = “1”, print"you'll have to pay:",t/(12*n),"every month"
  8. Elif opt = “3”, print"you'll have to pay:",3*t/(12*n),"every three months"
  9. Else print “INVALID OPTION”

  10.Stop.

- GoldLoan (self):

  1. Start
  2. print "GOLD LOAN"
  3. print "|Minimum deposit amount is 10 grams|"
  4. Take input of amount of gold in grams and carat as “22” or “24”
  5. print"|Maximum Duration of Repayment is 5 years|"
  6. Take input of number of years

7. if self. carat==22, loan amt = amt(in grams) * 30000.
    - Total interest is calculated with “0.02” as interest rate.
    - Print Total interest,Print Total amount (t)
    - Take Input of Mode of Repayment (‘Monthly or every 3 Months’)with opt as “1” or “3”
    - If opt = “1”, print"you'll have to pay:",t/(12*n),"every month"
    - Elif opt = “3”, print"you'll have to pay:",3*t/(12*n),"every three months"
    - Else print “INVALID OPTION”

8. elif self.carat==24, , loan amt = amt(in grams) * 32000.
    - Total interest is calculated with “0.03” as interest rate.
    - Print Total interest,Print Total amount (t)
    - Take Input of Mode of Repayment (‘Monthly or every 3 Months’)with opt as “1” or “3”
    - If opt = “1”, print"you'll have to pay:",t/(12*n),"every month"
    - Elif opt = “3”, print"you'll have to pay:",3*t/(12*n),"every three months"
    - Else print “INVALID OPTION”
9. Stop.

- newaccount():

1.Start

2. Call Function customer() using variable c

3. Invoke function getdata()

4. Open a binary file “Account.dat” in binary mode

5. Dump all customer information into the binary file

6. Close the binary file “Account.dat”

7. Declare nx variable as a global variable and assign it with the value “1”

8. Stop

- existing():

1. Take input from user for Account Number

2. Open binary file “Account.dat” in read mode

3.Using try and except block, load account details into a variable c.

4. Check whether entered account number is equal to the registered account number in the binary file.

5.If account number matches,take input for user’s password and check if it matches with the password present in the binary file.

6.print "LOGGED IN",c.name.upper()

7. print "|Hello|Welcome|"

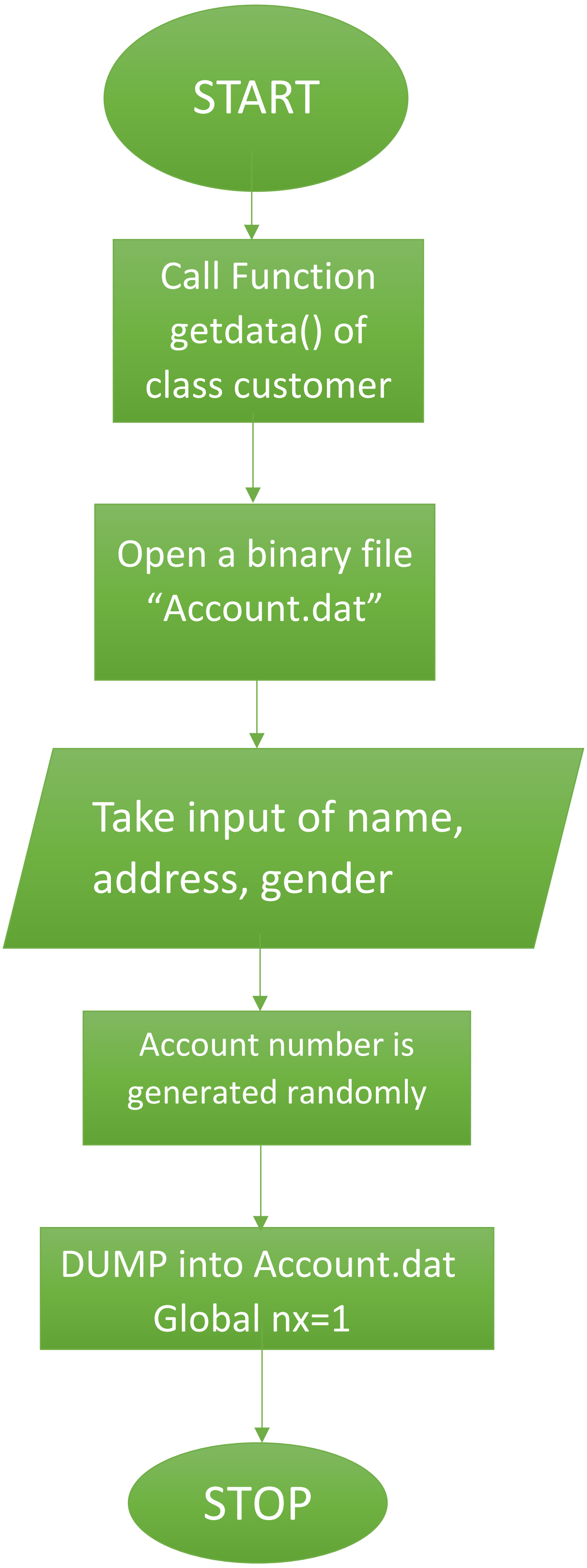
8. Stop.

- admin():

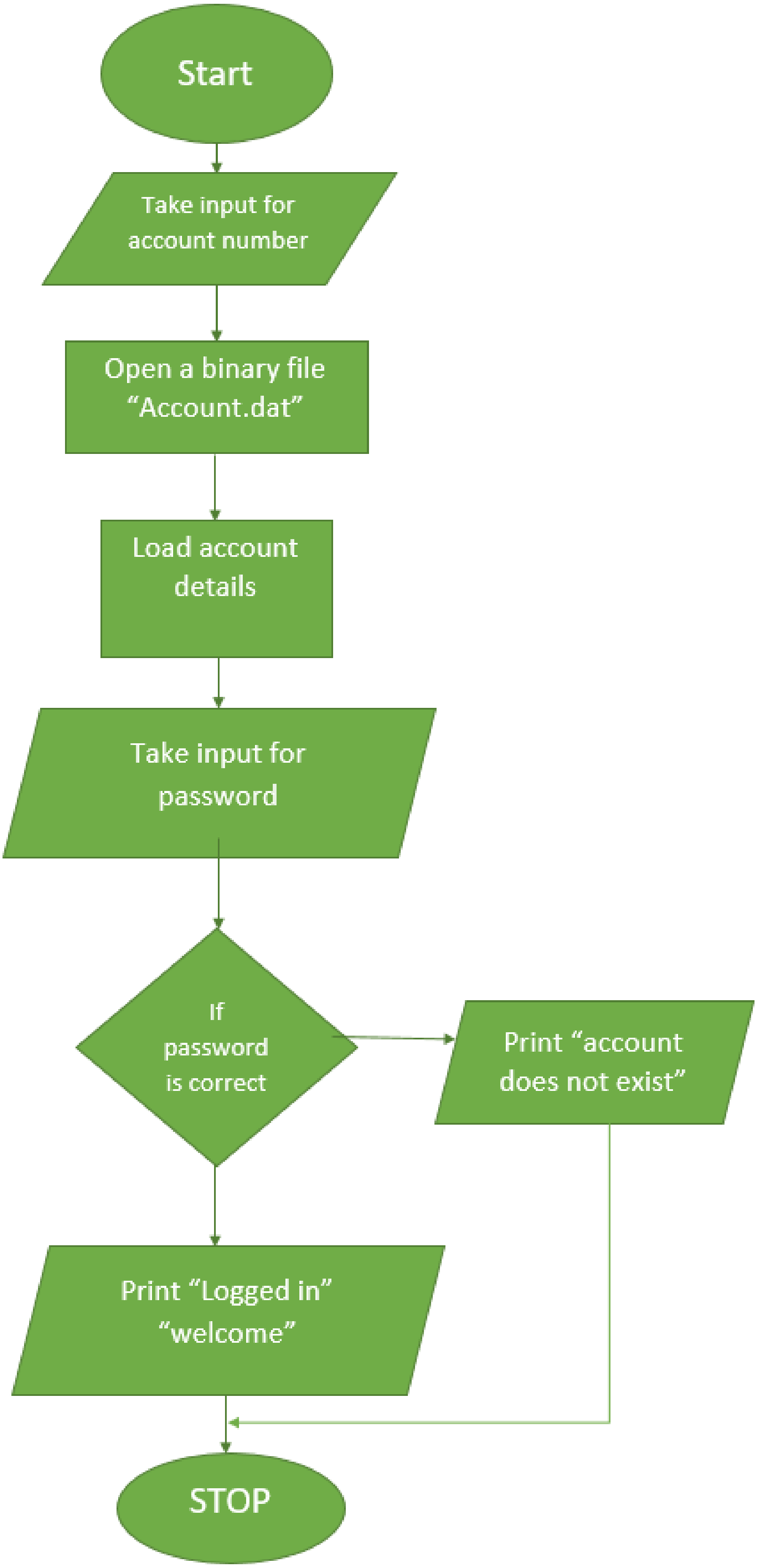
```
1. assign variable admin = “man”
2. Take input for admin password
3. Open binary file “Account.dat” in read mode
4. Check if Entered Password is equal to “man”
5. Print "|Account No.      NAME       Password       Balance |"
6. Using Try and Except Block, within Try block => load
   account information into a variable c.
7. print"%16d%12s%16s%16d"%(c.accno,c.name,c.password,c.
   balance)
8. Stop.
```

FLOWCHARTS

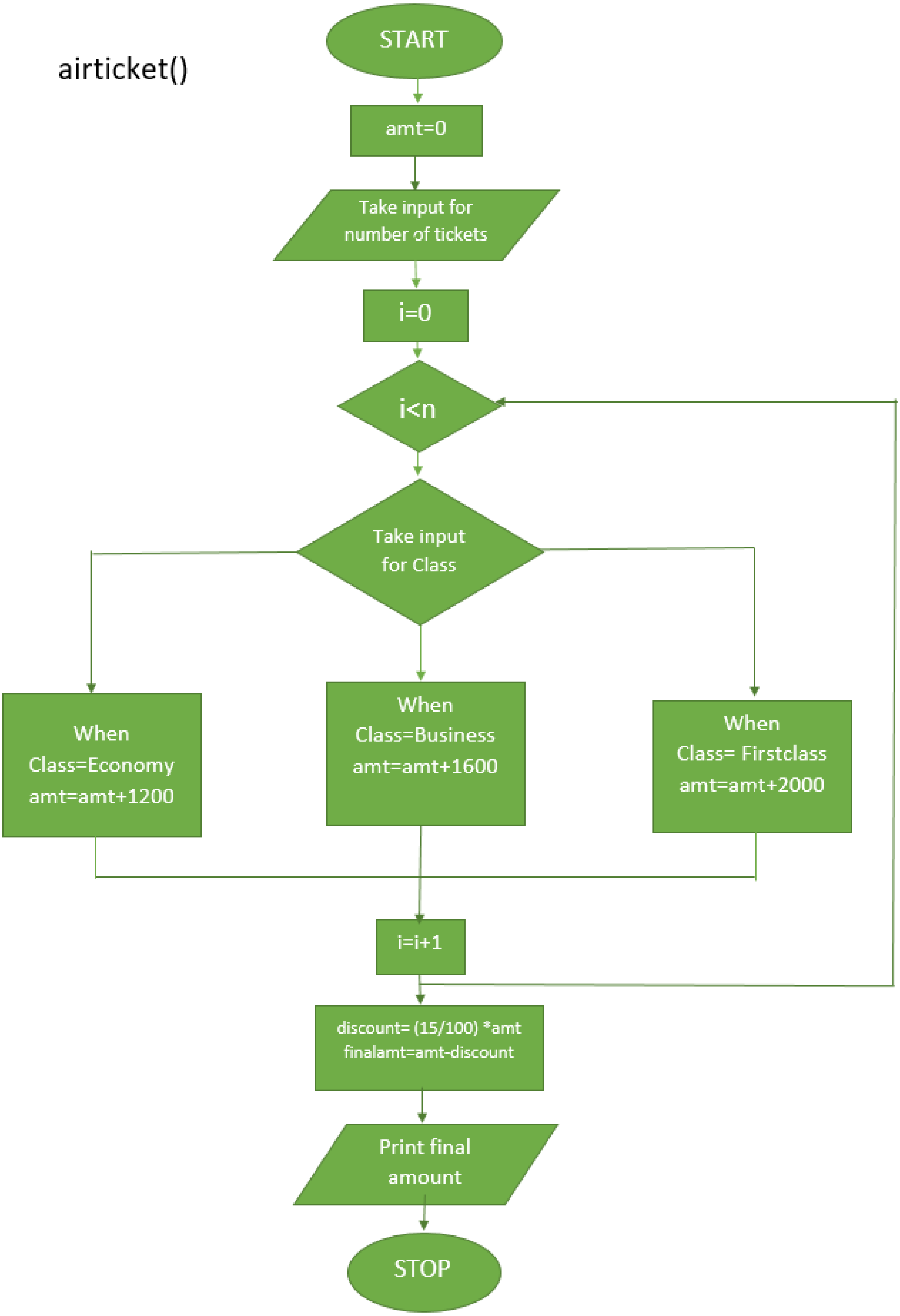
newaccout()


START
Call Function getdata() of class customer
Open a binary file “Account.dat”
Take input of name, address, gender
Account number is generated randomly
DUMP into Account.dat Global nx=1
STOP

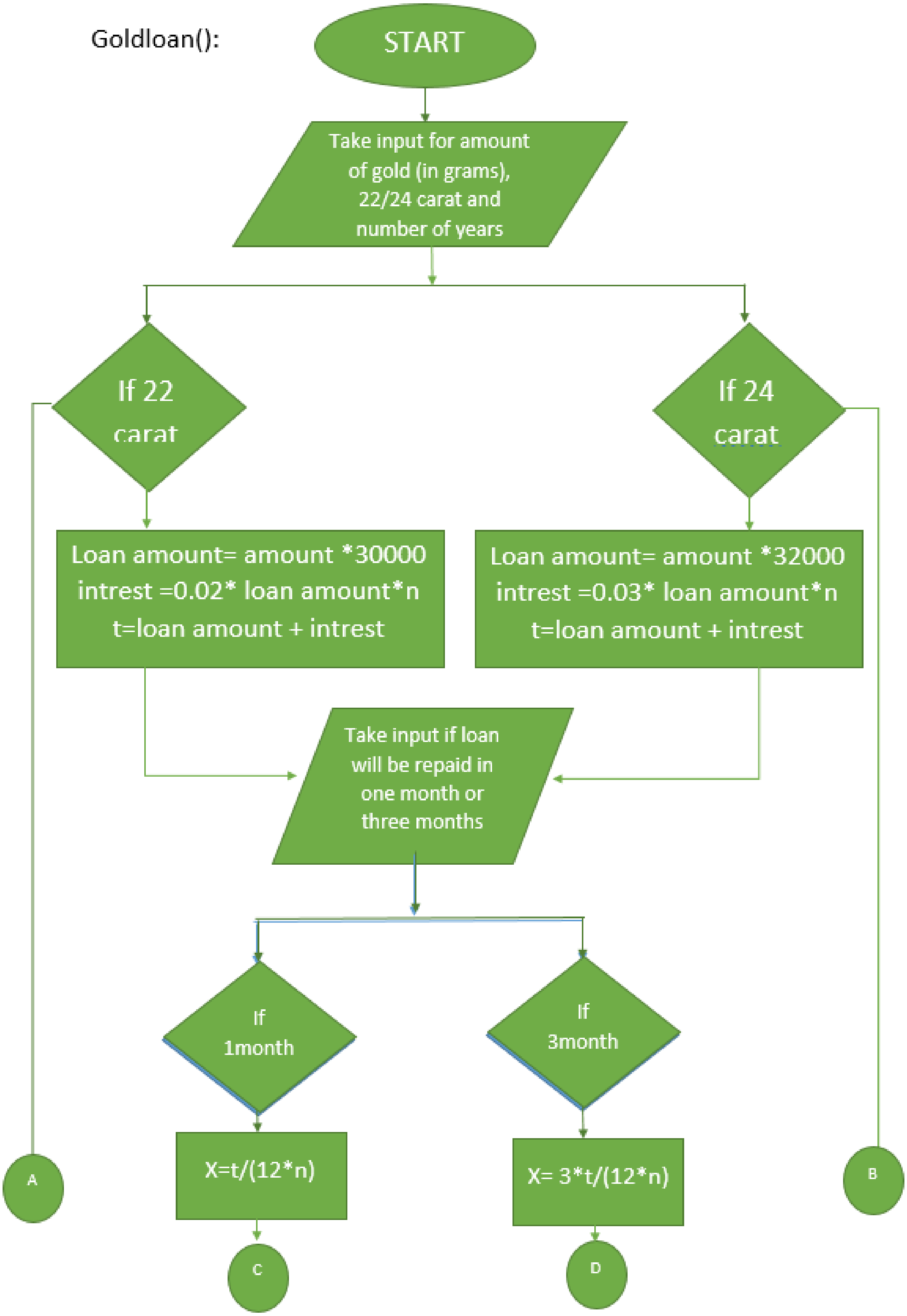
existing():

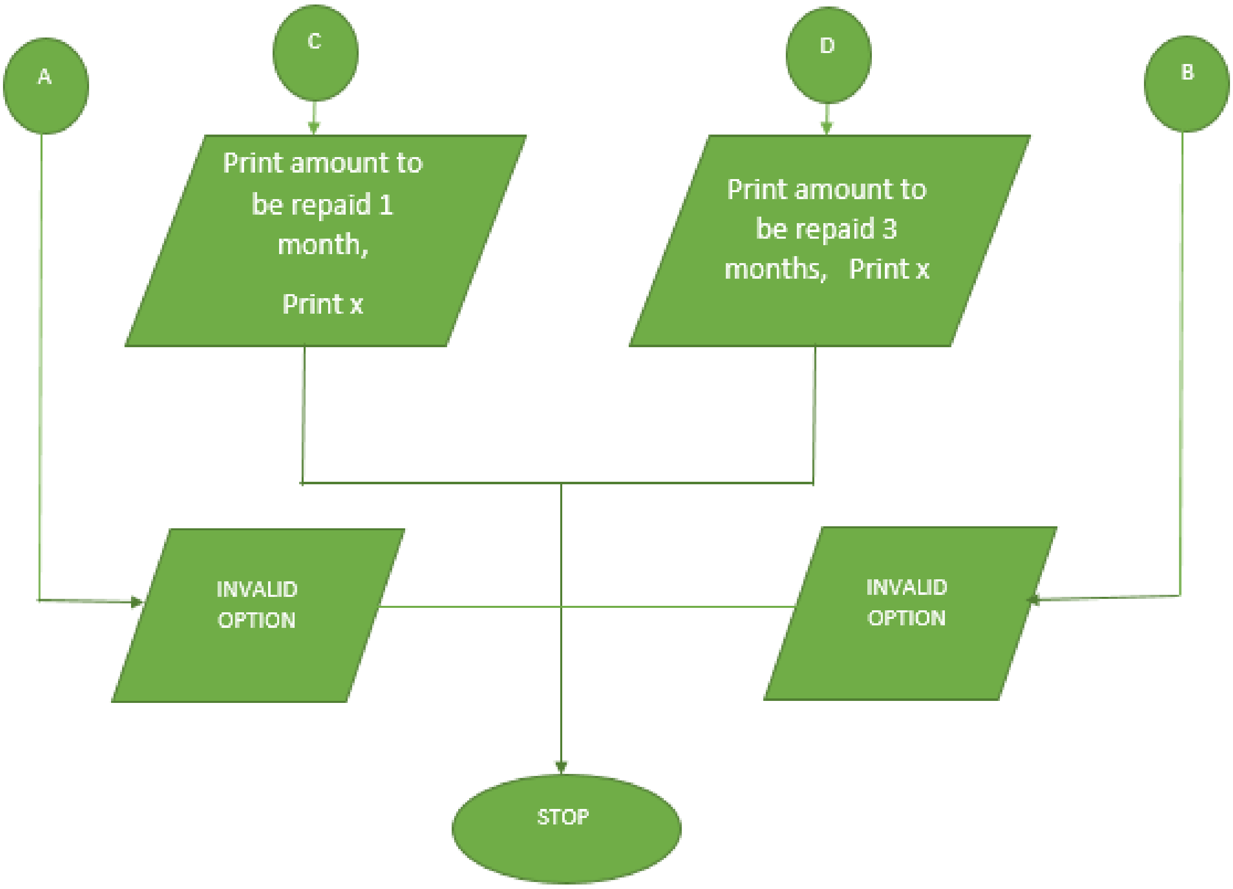

Start
Take input for account number
Open a binary file “Account.dat”
Load account details
Take input for password
If password is correct
Print “account does not exist”
Print “Logged in” “welcome”
STOP

airticket()

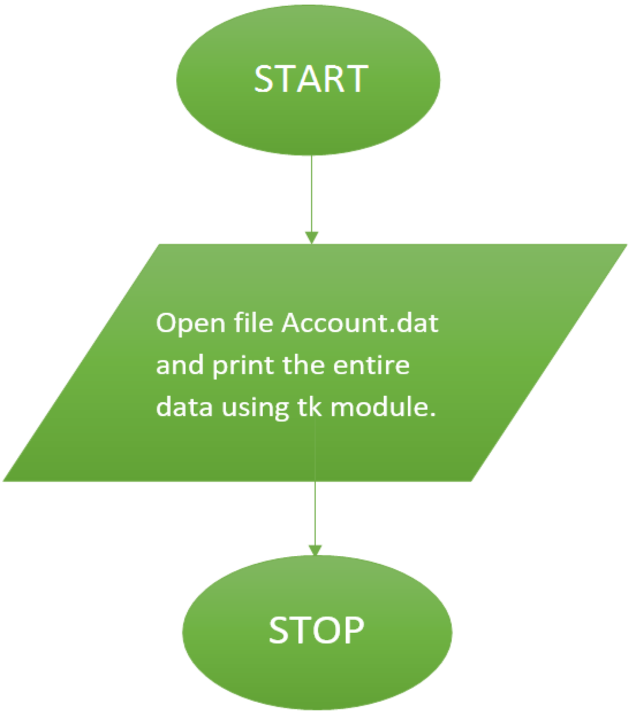

START
amt=0
Take input for number of tickets
i=0
i<n
Take input for Class
When Class=Economy amt=amt+1200
When Class=Business amt=amt+1600
When Class= Firstclass amt=amt+2000
i=i+1
discount= (15/100) *amt
finalamt=amt-discount
Print final amount
STOP

Goldloan():

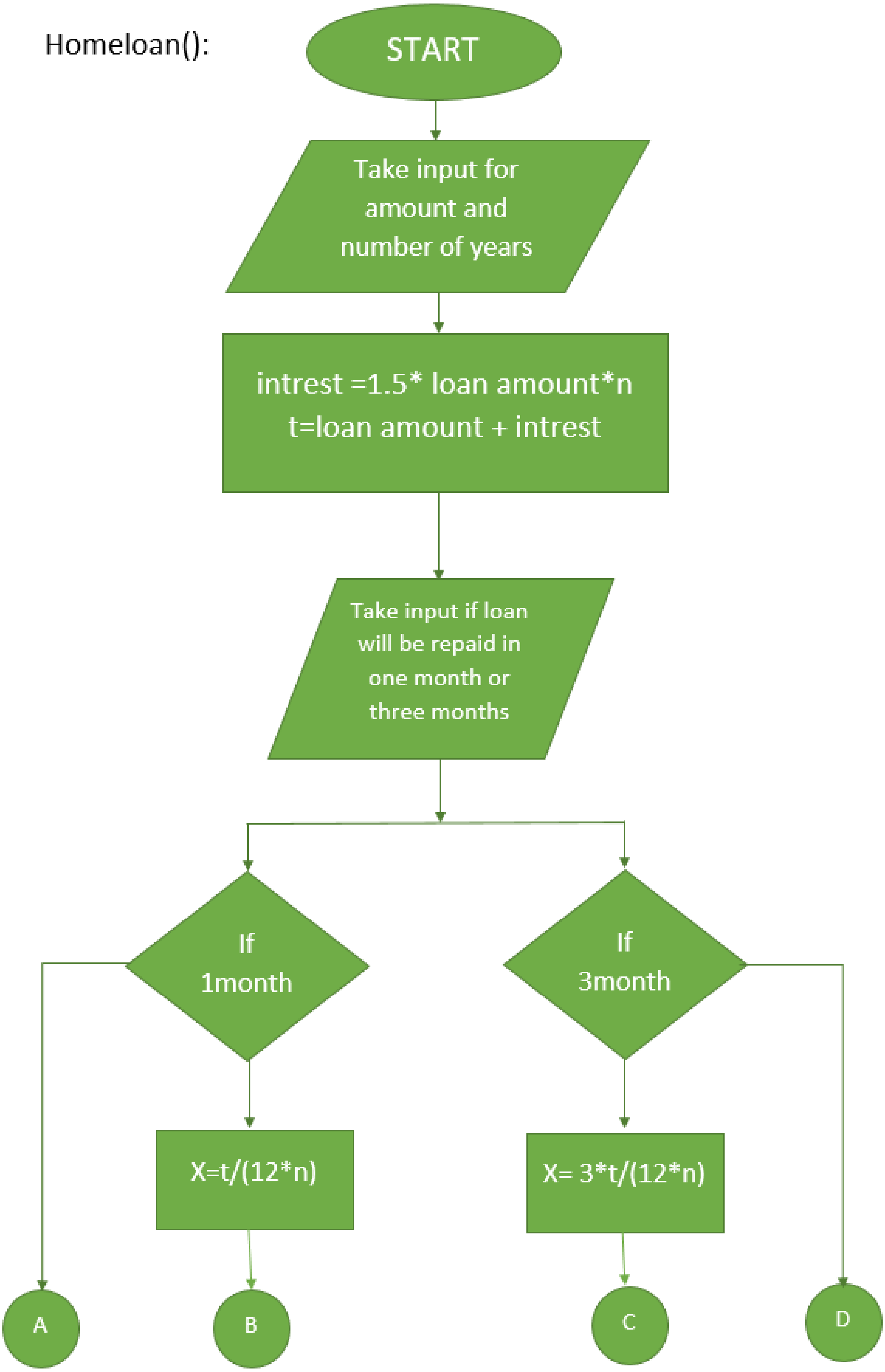

START
Take input for amount of gold (in grams), 22/24 carat and number of years
If 22 carat
If 24 carat
Loan amount= amount *30000
intrest =0.02* loan amount*n
t=loan amount + intrest
Loan amount= amount *32000
intrest =0.03* loan amount*n
t=loan amount + intrest
Take input if loan will be repaid in one month or three months
If 1month
If 3month
X=t/(12*n)
X= 3*t/(12*n)
A
B
C
D

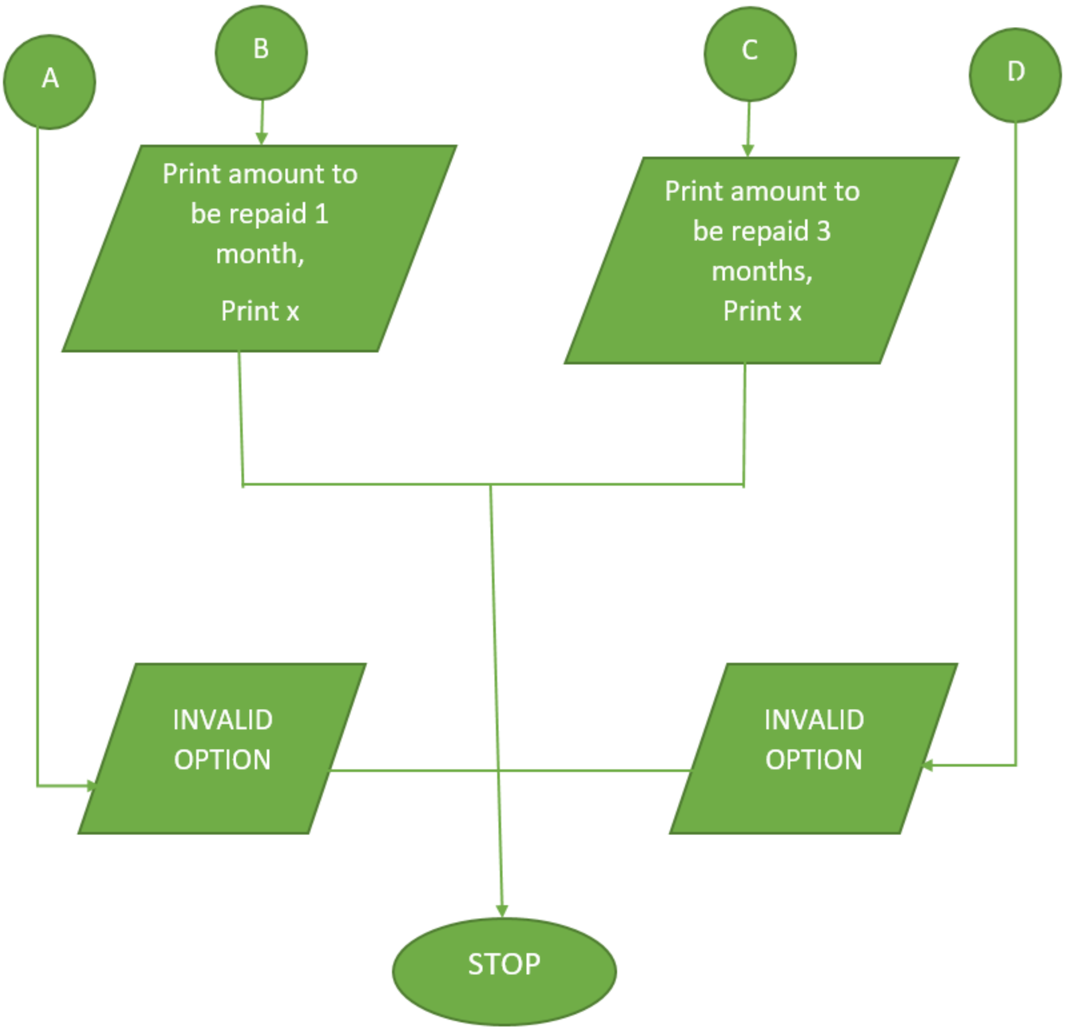

C
D
A
B
Print amount to be repaid 1 month,
Print x
Print amount to be repaid 3 months, Print x
INVALID OPTION
INVALID OPTION
STOP

display():

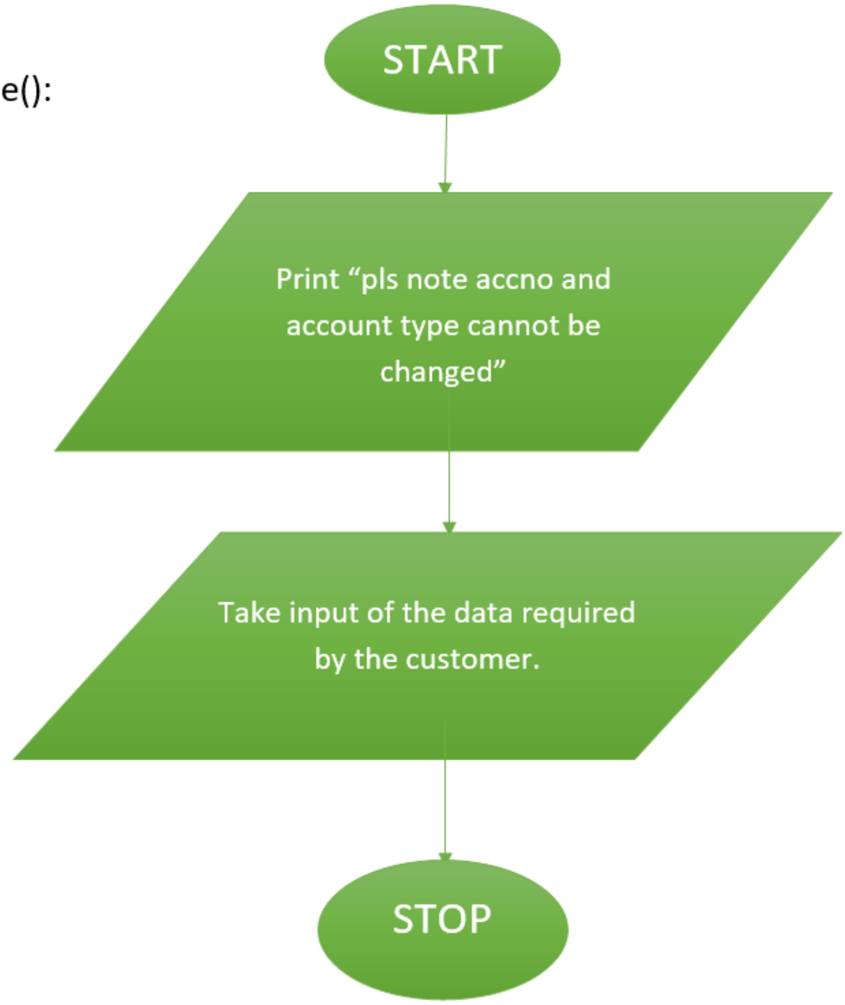

START
Open file Account.dat and print the entire data using tk module.
STOP

Homeloan():

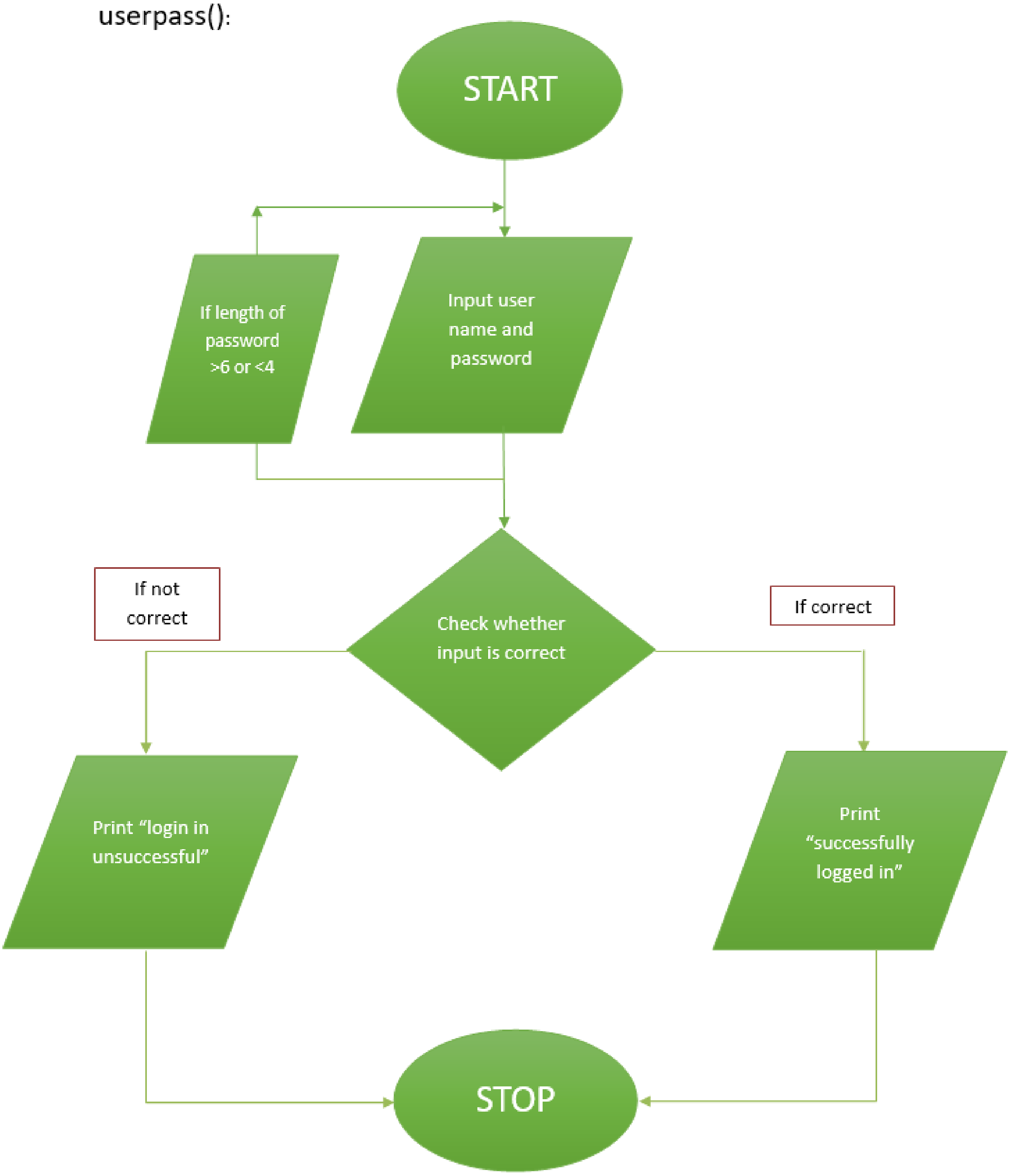

START
Take input for amount and number of years
intrest =1.5* loan amount*n
t=loan amount + intrest
Take input if loan will be repaid in one month or three months
If 1month
If 3month
X=t/(12*n)
X= 3*t/(12*n)
A
B
C
D


A
B
C
D
Print amount to be repaid 1 month,
Print x
Print amount to be repaid 3 months,
Print x
INVALID OPTION
INVALID OPTION
STOP

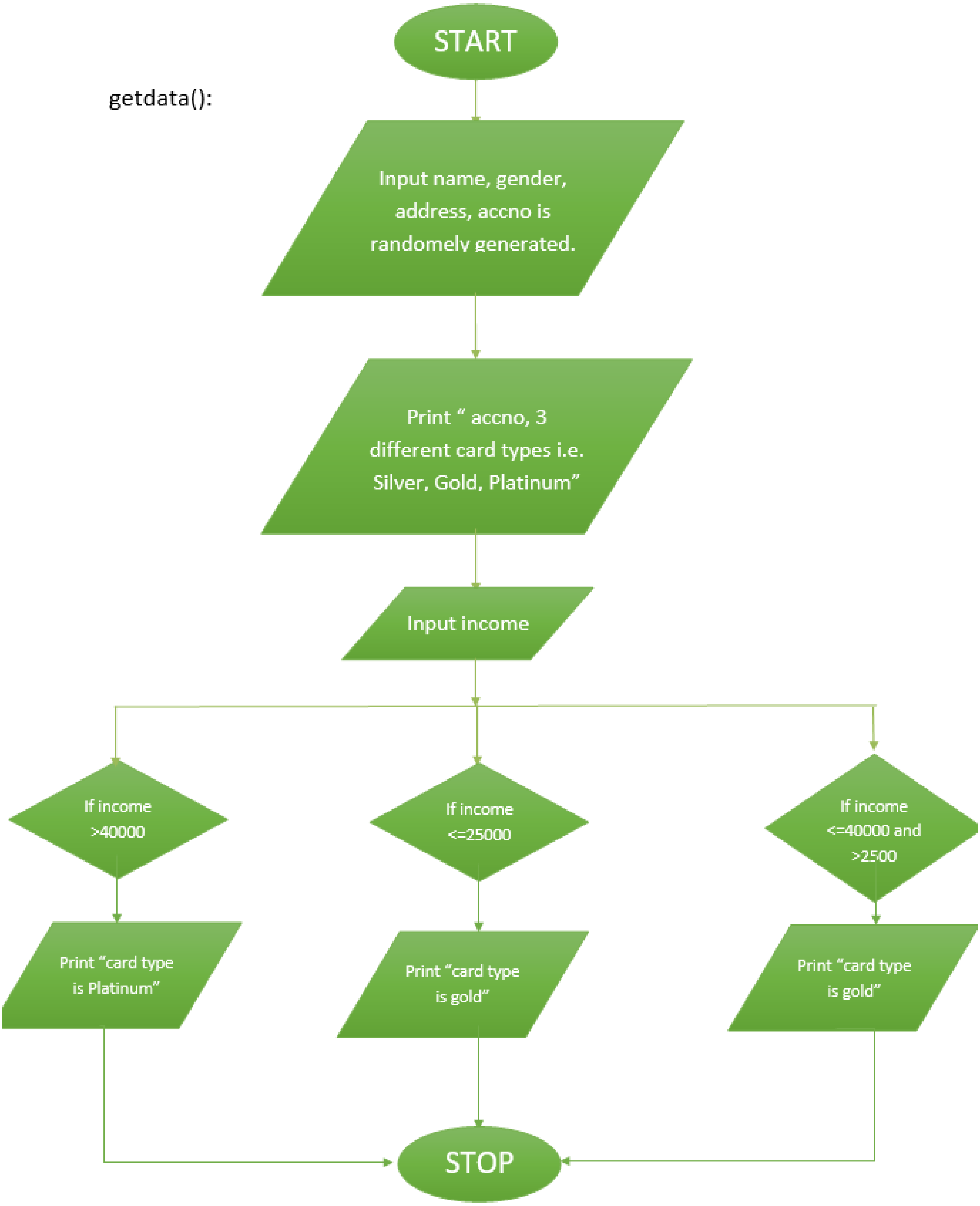
update():


START
Print “pls note accno and account type cannot be changed”
Take input of the data required by the customer.
STOP

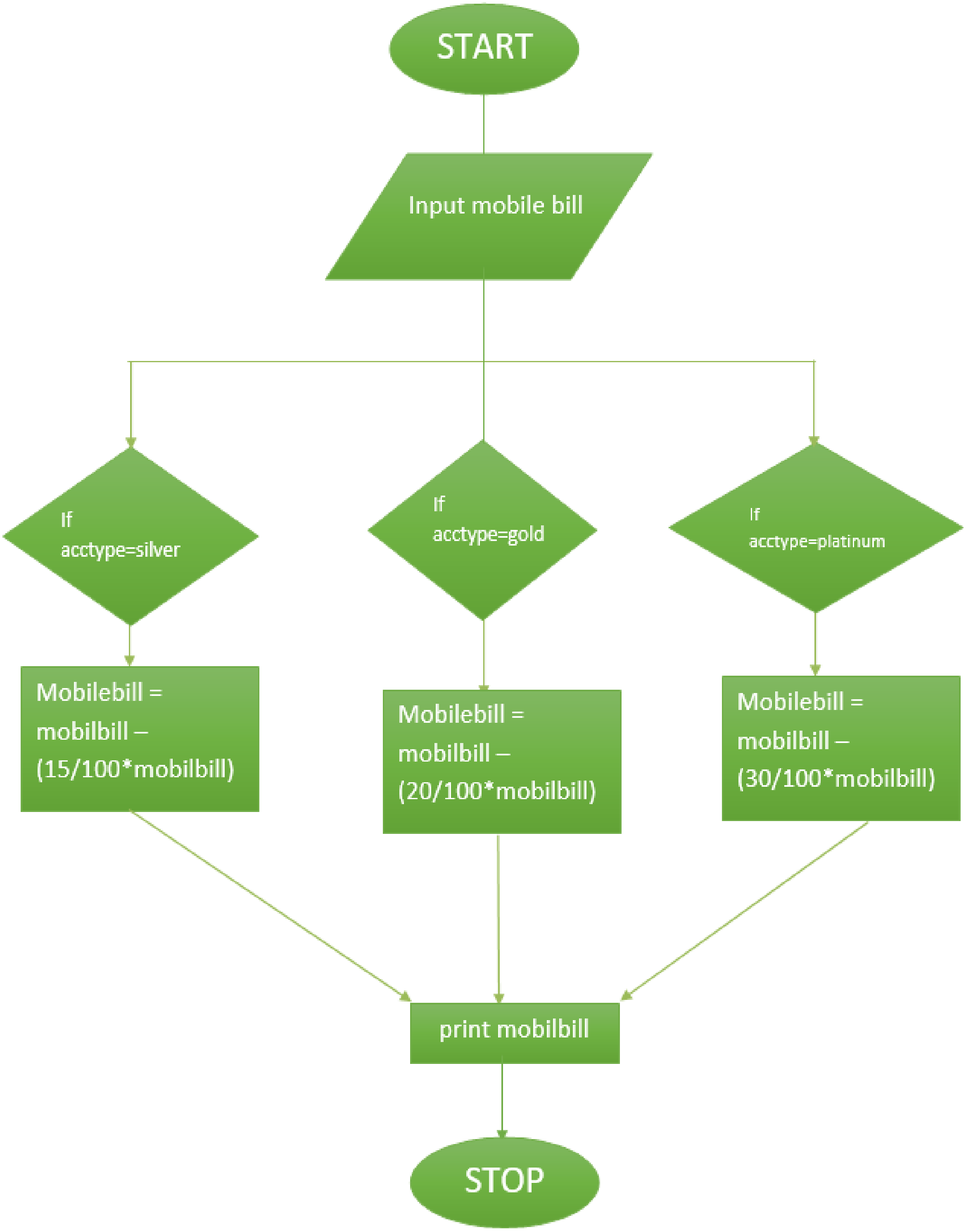
userpass():


START
If length of password >6 or <4
Input user name and password
If not correct
Check whether input is correct
If correct
Print “login in unsuccessful”
Print “successfully logged in”
STOP

getdata():


START
Input name, gender, address, accno is randomely generated.
Print " accno, 3 different card types i.e. Silver, Gold, Platinum"
Input income
If income >40000
If income <=25000
If income <=40000 and >2500
Print "card type is Platinum"
Print "card type is gold"
Print "card type is gold"
STOP

MobileBill():


START
Input mobile bill
If acctype=silver
If acctype=gold
If acctype=platinum
Mobilebill = mobilbill – (15/100*mobilbill)
Mobilebill = mobilbill – (20/100*mobilbill)
Mobilebill = mobilbill – (30/100*mobilbill)
print mobilbill
STOP