**Problem Statement:**

Write the documentation of your Java Mini Project using Latex**.**

**Source Code:**

\documentclass{article}

\usepackage{graphicx}

\graphicspath{ {

\usepackage{graphicx}

\usepackage[top=1in, bottom=1in]{geometry}

\usepackage{amsfonts}

\title{$\vcenter{\hbox{\includegraphics[width=0.5in]{svkmlogo.jpeg}}}$ \hspace{2cm} \begin{small} SHRI VILE PARLE KELAVANI MANDAL’S \end{small}$\hspace{2cm} \vcenter{\hbox{\includegraphics[width=0.5in]{sbmplogo.jpeg}}}$ \hspace{10mm} \vspace\*{-\baselineskip} \begin{large} SHRI BHAGUBHAI MAFATLAL POLYTECHNIC \end{large} }

\begin{document}

\maketitle

\begin{center}

\title \textbf{ATM Simulator}\\

\author \textbf{Tanay Rambhia}\\

\end{center}

%\begin{document}

\maketitle

\begin{center}

Course Name: Programming in Java\\

Code: PRJ190901\\

Semester: III \\

Program: Information Technology \\

\end{center}

\newpage

\begin{flushleft}

\begin{Large}

\textbf{Description of the project:-}

\end{Large}

\end{flushleft}

In this project we are going to see how an ATM works. \\

We have a class name Bank which takes basic information from the user example Account Number, Account Balance, Account Type, Name, Address. It also displays the same.

There is a class Deposit which inherits class Bank and takes amount to deposited and shows total balance.

There is class Withdrawn which inherits class Bank and the user wants to withdraw money from their account.

There is class Issue which inherits class Bank and tells the respective Bank that they have some issues in their Account.

There is class Recharge which inherits class Bank to recharge the given mobile number. \\

\begin{flushleft}

\begin{Large}

\textbf{Features:-}

\end{Large}

\end{flushleft}

\begin{tiny}

\section{Account}

\begin{normalsize}

To create a Bank Account and maintain balance

\end{normalsize}

\section{Deposit}

\begin{normalsize}

To deposit Money in the Bank

\end{normalsize}

\section{Withdrawn}

\begin{normalsize}

To Withdrawn Money in the Bank

\end{normalsize}

\section{Recharge}

\begin{normalsize}

To Recharge a Phone No

\end{normalsize}

\section{Issue}

\begin{normalsize}

To fix Issue related to Bank Account \\

\end{normalsize}

\end{tiny}

\begin{flushleft}

\begin{Large}

\textbf{Software Used:-}

\end{Large}

\end{flushleft}

\begin{itemize}

\item The JDK is a development environment for building applications using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform. \\

\item The Java Platform, Standard Edition (Java SE) APIs define the core Java platform for general-purpose computing. These APIs are in modules whose names start with java. \\

\item The Java Development Kit (JDK) APIs are specific to the JDK and will not necessarily be available in all implementations of the Java SE Platform. These APIs are in modules whose names start with JDK. \\

\end{itemize}

\begin{flushleft}

\begin{Large}

\textbf{Logo:-}

\end{Large}

\end{flushleft}

\includegraphics[width=100px]{Jdk16.jpg}

\newpage

\begin{flushleft}

\begin{Large}

\textbf{Description of the Project:-}

\end{Large}

\end{flushleft}

\begin{tabular}{ |p{3cm}|p{3cm}|p{6.3cm}| }

\hline

\multicolumn{3}{|c|}{Methods} \\

\hline

Sr no& Method Name & Description\\

\hline

1 & setvalue() & Takes basic information from the user example Account Number, Account Balance, Account Type, Name, Address.\\

\hline

2 & showdata() & It displays the data taken from the above input. \\

\hline

3 & deposit() & Takes amount to deposited from the user .\\

\hline

4 & showbal() & Shows total balance after depositing\\

\hline

5 & withdraw() & Takes amount to be withdrawn from the user\\

\hline

6 & recharge() & To recharge the given mobile number. \\

\hline

7 & issue() & Tells the respective Bank that they have some issues in their Account.\\

\hline

\end{tabular}

\newpage

\begin{flushleft}

\begin{Large}

\textbf{Code:-}

\end{Large}

\end{flushleft}

// Java program to implement the ATM Management System \\

package MyPack; \\

import java.util.\*;\\

import java.util.Date; \\

import java.text.SimpleDateFormat; \\

class Bank \\

\{ \\

Scanner sc = new Scanner(System.in); \\

public String name ; // To save name of the user \\

public String accnumber; // To save the account number \\

public String type; // To ask the type of Account i.e Savings or Current \\

public String pin; // To set a password \\

public static double tot = 0; // To enter amount \\

public Date date; // To get the current date \\

// Function to set the person's data \\

void setvalue() \\

\{ \\

System.out.println("Enter name:"); \\

name = sc.nextLine();

label1: \\

while(true) \\

\{ \\

System.out.println("Enter Account Number:"); \\

accnumber = sc.next(); \\

if($ accnumber.length() <=0|| accnumber.length()>=9 $) \\

\{ \\

System.out.println("Account Number is invalid must be in the range(0,8)"); \\

continue label1; \\

\} \\

else \\

break label1; \\

\} \\

label2:

while(true) \\

\{ \\

System.out.println("Enter Pin:"); \\

pin = sc.next(); \\

if($ pin.length()<=0|| pin.length()>=5 $) \\

\{ \\

System.out.println("Pin is invalid must be in the range(0,4)"); \\

continue label2; \\

\} \\

else \\

break label2; \\

\} \\

System.out.println("Enter Account Type:"); \\

type = sc.next(); \\

label3: \\

while(true) \\

\{ \\

System.out.println("Enter Balance:"); \\

tot = sc.nextDouble(); \\

if($tot<0$) \\

\{ \\

System.out.println("Balance is invalid must be greater than 0"); \\

continue label3; \\

\} \\

else \\

break label3; \\

\} \\

date = new Date(); \\

\} \\

// Function to display the required data\\

void showdata()\\

\{ \\

System.out.println("Name:" +name);\\

System.out.println("Account Number:"+accnumber);\\

System.out.println("Account Type:" +type);\\

System.out.println("Pin:" +pin);\\

System.out.println("Balance:" +tot);\\

System.out.println("Current date is " + date);\\

\} \\

\} \\

class Deposit extends Bank \\

\{ \\

Scanner sc = new Scanner(System.in); \\

double amount = 0; // To enter a amount to be deposited \\

// Function to deposit the amount in ATM \\

void deposit() \\

\{ \\

System.out.println("Enter amount to be Deposited:"); \\

amount = sc.nextDouble(); \\

\} \\

// Function to show the balance amount \\

void showbal() \\

\{ \\

Bank.tot = Bank.tot + amount; \\

System.out.println("Total Balance is:" +Bank.tot); \\

\} \\

\} \\

class Withdraw extends Bank \\

\{ \\

public int alter,a,option; \\

public static double $avai\_balance$; \\

// Function to withdraw the amount in ATM \\

void withdrawl() \\

\{ \\

try \\

\{ \\

Scanner sc = new Scanner(System.in); \\

System.out.println("Do you want$\$n (1) Fast cash or $\$n (2) Want to withdraw money: "); \\

alter = sc.nextInt(); \\

if(alter == 1) \\

\{ \\

System.out.println("How much you want to withdraw: "); \\

System.out.println("1. 100 "); \\

System.out.println("2. 500 "); \\

System.out.println("3. 1000 "); \\

System.out.println("4. 1500 "); \\

System.out.println("5. 2000 "); \\

System.out.println("6. 5000 "); \\

System.out.println("7. 10000 "); \\

System.out.println("Enter your Choice: "); \\

option = sc.nextInt(); \\

switch(option) \\

\{ \\

case 1: \\

\{ \\

$avai\_balance$ = Bank.tot - 100; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 2: \\

\{ \\

$avai\_balance$ = Bank.tot - 500; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 3: \\

\{ \\

$avai\_balance$ = Bank.tot - 1000; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 4: \\

\{ \\

$avai\_balance $= Bank.tot - 1500; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 5: \\

\{ \\

$avai\_balance$ = Bank.tot - 2000; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 6: \\

\{ \\

$avai\_balance $= Bank.tot - 5000; \\

System.out.println("Available Balance is: " +$avai\_balance$); \\

break; \\

\} \\

case 7: \\

\{ \\

$ avai\_balance $= Bank.tot - 10000; \\

System.out.println("Available Balance is: " + $avai\_balance$); \\

break; \\

\} \\

default: \\

\{ \\

System.out.println("Invalid Output"); \\

break; \\

\} \\

\} //End of Switch case \\

\}// End of if Statement \\

else if(alter == 2) \\

\{ \\

System.out.println("Enter amount to withdraw: "); \\

a = sc.nextInt(); \\

$avai\_balance$ = Bank.tot - a;

System.out.println("Available Balance is: " +$avai\_balance$); \\

\} \\

else \\

\{ \\

System.out.println("Invalid Output "); \\

\} \\

\}catch (Exception e) \\

\{ \\

System.out.println("INVALID ENTRY"); \\

\} \\

\} \\

\} \\

class Recharge extends Bank \\

\{ \\

Scanner sc = new Scanner(System.in); \\

void recharge() \\

\{ \\

double pay; \\

$ long phone\_no$; \\

System.out.println("Enter phone no: "); \\

$phone\_no $= sc.nextLong(); \\

System.out.println("Enter how much you want to recharge:"); \\

pay = sc.nextDouble(); \\

Bank.tot = Withdraw.$avai\_balance$ - pay; \\

System.out.println("Total Balance is: " +Bank.tot); \\

\} \\

\} \\

class Issues extends Bank \\

\{ \\

void issue() \\

\{ \\

String email; \\

System.out.println("Enter your Email: "); \\

email = sc.nextLine(); \\

String issue; \\

System.out.println("$\ $nWhat is the Issue?");

issue = sc.nextLine(); \\

System.out.println(); \\

System.out.println("Thank you your issue will be solved soon.");

\} \\

\} \\

class AtmDemo \\

\{ \\

public static void main(String args[]) \\

\{ \\

Bank b1 = new Bank(); \\

Deposit d1 = new Deposit(); \\

Withdraw w1 = new Withdraw(); \\

Recharge r1 = new Recharge(); \\

Issues i1 = new Issues(); \\

Scanner sc = new Scanner(System.in); \\

System.out.println("$\$n $\$ n ------------ WELCOME TO TANAY'S ATM ---------"); \\

while (true) \\

\{ \\

int choice; \\

System.out.println("\t1. Enter name, Account number, Account type"); \\

System.out.println("\t2. Balance Enquiry "); \\

System.out.println("\t3. Deposit Enquiry "); \\

System.out.println("\t4. Show Mini Statement "); \\

System.out.println("\t5. Withdraw Money "); \\

System.out.println("\t6. Recharge "); \\

System.out.println("\t7. Issues "); \\

System.out.println("\t8. Cancel "); \\

System.out.println("Enter your choice:"); \\

choice = sc.nextInt(); \\

// Choices to select from \\

switch (choice) \\

\{ \\

case 1: \\

b1.setvalue(); \\

System.out.println(); \\

break; \\

case 2: \\

b1.showdata(); \\

System.out.println(); \\

break; \\

case 3: \\

d1.deposit(); \\

System.out.println(); \\

break; \\

case 4: \\

d1.showbal(); \\

System.out.println(); \\

break; \\

case 5: \\

w1.withdrawl(); \\

System.out.println(); \\

break; \\

case 6: \\

r1.recharge(); \\

System.out.println(); \\

break; \\

case 7: \\

i1.issue(); \\

System.out.println(); \\

break; \\

case 8: \\

System.exit(1); \\

break; \\

default: \\

System.out.println("$\ $ Invalid Choice"); \\

\} \\

\}\\

\} \\

\} \\

\newpage

\begin{flushleft}

\begin{Large}

\textbf{Output:-}

\end{Large}

\end{flushleft}

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

1\\

Enter name:\\

Tanay Rambhia\\

Enter Account Number:\\

57498017\\

Enter Pin:\\

0017\\

Enter Account Type:\\

Savings\\

Enter Balance:\\

10000\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

2\\

Name:Tanay Rambhia\\

Account Number:57498017\\

Account Type:Savings\\

Pin:0017\\

Balance:10000.0\\

Current date is Mon Dec 12 01:10:55 IST 2022\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

3\\

Enter amount to be Deposited:\\

1500\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

4\\

Total Balance is:11500.0\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

5\\

Do you want\\

(1) Fast cash or\\

(2) Want to withdraw money:\\

1\\

How much you want to withdraw:\\

1. 100\\

2. 500\\

3. 1000\\

4. 1500\\

5. 2000\\

6. 5000\\

7. 10000\\

Enter your Choice:\\

4\\

Available Balance is: 10000.0\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

6\\

Enter phone no:\\

9152075629\\

Enter how much you want to recharge:\\

500\\

Total Balance is: 9500.0\\

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

7\\

Enter your Email:\\

tanayrambhia204@gmail.com

\begin{flushleft}

What is the Issue?

\end{flushleft}

Debit Card Blocked.

\begin{flushleft}

Thank you your issue will be solved soon.\\

\end{flushleft}

------------ WELCOME TO TANAY'S ATM ---------\\

1. Enter name, Account number, Account type\\

2. Balance Enquiry\\

3. Deposit Enquiry\\

4. Show Mini Statement\\

5. Withdraw Money\\

6. Recharge\\

7. Issues\\

8. Cancel\\

Enter your choice:\\

8\\

\newpage

\begin{flushleft}

\begin{Large}

\textbf{Future Scope:-}

\end{Large}

\end{flushleft}

\begin{flushleft}

The features that could not be added are array of objects, GUI, IO Handling and Multi Threading. \\

In the near future these concepts will be added in a appropriate way.\\

We can add Database connectivity to add Database and enhance the project

\end{flushleft}

\begin{flushleft}

\begin{Large}

\textbf{Conclusion:-}

\end{Large}

\end{flushleft}

\begin{flushleft}

From this Mini Project I learned the various Java concept like Inheritance, Exception Handling, Packages, basic Class and objects, Basic Object Oriented

Programming concepts and String Functions. \\

This helped me to strengthen the core Java concepts.

\end{flushleft}

\begin{thebibliography}{9}

\bibitem{}

\emph{https://www.programmingboss.com/2021/07/atm-machine-project-in-java-programming.html}

\bibitem{}

\emph{https://www.javatpoint.com/atm-program-java}

\bibitem{}

\emph{Java The Complete Reference Book.}

\end{thebibliography}

\end{document}