```
import java.io.*;
import java.util.HashMap;
import java.util.Map;

public class BusReservation {

   public static void main(String args[]) throws IOException {
      BufferedReader in = new BufferedReader(new InputStreamReader(System.in));
      String user, password, yn, search, again, choice;
      int to = 0, y = 1, z = 0, end = 0, r = 1;
      int available[] = new int[6];
      int ticketI[][] = new int[100][3];
      String ticketS[][] = new String[100][3];
      double ticketD[][] = new double[100][3];
      double pay[] = new double[20];
      double change[] = new double[20];
      Map<String, String> users = new HashMap<>();

      users.put("abi", "abi@123");
      users.put("vijay", "Vijay@123");
      users.put("admin", "admin@123");


      for (int i = 1; i < 4;) {
         System.out.print("Enter Username: ");
         user = in.readLine();
         System.out.print("Enter Password: ");
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password = in.readLine();
for (int o = 1; o <= 5; o++) {
   available[o] = 20;
}
if (users.containsKey(user) && users.get(user).equals(password)) {
   for (int x = 1; x == 1;) {
      System.out.println("****************************");
      System.out.println("** BUS TICKETING SYSTEM   **");
      System.out.println("****************************");
      System.out.println("** [1] Buy Ticket        **");
      System.out.println("** [2] Destination       **");
      System.out.println("** [3] Transaction       **");
      System.out.println("** [4] View              **");
      System.out.println("** [5] Exit              **");
      System.out.println("****************************");
      System.out.println("****************************\n");

      for (x = 1; x == 1;) {
         System.out.print("ENTER CHOICE: ");
         choice = in.readLine();
         if (choice.equals("1")) {

            int print = 1;
            System.out.println("**************************************");
            System.out.println("**   DESTINATION   |  FARE  |  SEAT  **");
            System.out.println("**************************************");
            System.out.println("** 1.)Tokyo       |   $12  |   " + available[1] + "   **");
            System.out.println("** 2.)Osaka       |   $15  |   " + available[2] + "   **");
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                System.out.println("** 3.)Kyoto       |  $12  |  " + available[3] + "   **");
                System.out.println("** 4.)Fukuoka     |  $16  |  " + available[4] + "   **");
                System.out.println("** 5.)Kanazawa    |  $18  |  " + available[5] + "   **");
                System.out.println("****************************************");
                System.out.println("****************************************\n");
                System.out.println("PWD, STUDENT, & SENIOR CITIZEN with 20% DISCOUNT!!!\n");
                if ((available[1] == 0) && (available[2] == 0) && (available[3] == 0) && (available[4] == 0) && (available[5] == 0)) {
                    System.out.println("Sorry, We don't have available seats for all Destination!");
                    x = 0;
                } else {
                    for (x = 1; x == 1;) {
                        System.out.print("\nENTER PASSENGER'S NAME: ");
                        ticketS[z][0] = in.readLine();
                        x = 0;
                        for (int l = 0; l < z; l++) {
                            if (ticketS[l][0].equalsIgnoreCase(ticketS[z][0])) {
                                System.out.println("Sorry, Passenger's name have already used!");
                                x = 1;
                            }
                        }
                    }
                    for (x = 1; x == 1;) {
                        System.out.print("ENTER DESTINATION [number]: ");
                        to = Integer.parseInt(in.readLine());
                        if (to < 1 || to > 5) {
                            System.out.println("Invalid Input!");
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                x = 1;
            }
            for (int d = 1; d <= 5; d++) {
                if (to == d) {
                    if (available[to] == 0) {
                        System.out.println("Sorry, We don't have available seat!");
                        x = 1;
                    }
                    x = 0;
                }
            }
        }
        String dest[] = {" ", "Tokyo", "Osaka", "Kyoto", "Fukuoka", "Kanazawa"};
        double fare[] = {0, 12, 15, 12, 16, 18};
        ticketS[z][1] = dest[to];
        ticketD[z][0] = fare[to];
        for (x = 1; x == 1;) {
            System.out.print("HOW MANY PASSENGERS ARE YOU?: ");
            ticketI[z][0] = Integer.parseInt(in.readLine());

            //subtract the available seat by the the number inputed//
            for (int p = 1; p <= 5; p++) {
                if (to == p) {
                    print = 1;
                    available[to] = available[to] - ticketI[z][0];
                    if (available[to] < 0) {
                        System.out.print("Sorry, We don't have seat available for " +
ticketI[z][0] + " person\n");
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```
                    available[to] = available[to] + ticketI[z][0];
                    System.out.print("We only have " + available[to] + " seat
available\n");
                    x = 1;
                    print = 0;
                  } else {
                    x = 0;
                  }
                }
              }

            }
            for (x = 1; x == 1;) {
              System.out.print("HOW MANY PASSENGERS HAVE DISCOUNT?: ");
              ticketI[z][1] = Integer.parseInt(in.readLine());

              if (ticketI[z][1] > ticketI[z][0]) {
                System.out.println("Invalid Input!");
                System.out.println("No. of Passengers are only " + ticketI[z][0] + "!");
                x = 1;
              } else {
                break;
              }
            }
            if (print == 1) {

System.out.println("\n**************************************");
              System.out.println("**       PASSENGER'S DETAILS       **");
              System.out.println("**************************************");
```

```
                    System.out.println("PASSENGER'S NAME: " + ticketS[z][0]);
                    System.out.println("PASSENGER'S DESTINATION : " + ticketS[z][1]);
                    System.out.println("FARE PRICE: $" + ticketD[z][0]);
                    System.out.println("NO. OF PASSENGERS: " + ticketI[z][0]);
                    System.out.println("NO. OF PASSENGERS WITH DISCOUNT: " +
ticketI[z][1]);
                    System.out.println("****************************************");

System.out.println("****************************************\n");
                    ticketS[z][2] = "0";
                    double discount = (ticketD[z][0] - (ticketD[z][0] * 0.2)) * ticketI[z][1];
                    ticketD[z][2] = ((ticketI[z][0] - ticketI[z][1]) * ticketD[z][0]) + discount;
                    x = 0;
                  }
                  z++;
                }
              } else if (choice.equals("2")) {

                System.out.println("****************************************");
                System.out.println("**   DESTINATION   |  FARE  |  SEAT  **");
                System.out.println("****************************************");
                System.out.println("** 1.)Tokyo       |   $12  |   " + available[1] + "   **");
                System.out.println("** 2.)Osaka       |   $15  |   " + available[2] + "   **");
                System.out.println("** 3.)Kyoto       |   $12  |   " + available[3] + "   **");
                System.out.println("** 4.)Fukuoka     |   $16  |   " + available[4] + "   **");
                System.out.println("** 5.)Kanazawa    |   $18  |   " + available[5] + "   **");
                System.out.println("****************************************");
                System.out.println("****************************************\n");
```

```
                    System.out.println("PWD, STUDENT, & SENIOR CITIZEN with 20%
DISCOUNT!!!\n");
                    x = 0;

                } else if (choice.equals("3")) {
                    for (x = 1; x == 1;) {

                        System.out.print("ENTER PASSENGER'S NAME: ");
                        search = in.readLine();
                        int s = 1;
                        for (int b = 0; b < z; b++) {
                            if (search.equalsIgnoreCase(ticketS[b][0])) {

System.out.println("****************************************");
                                System.out.println("**       PASSENGER'S DETAILS       **");

System.out.println("****************************************");
                                System.out.println("PASSENGER'S NAME: " + ticketS[b][0]);
                                System.out.println("PASSENGER'S DESTINATION : " + ticketS[b][1]);
                                System.out.println("FARE PRICE: $" + ticketD[b][0]);
                                System.out.println("NO. OF PASSENGERS: " + ticketI[b][0]);
                                System.out.println("NO. OF PASSENGERS WITH DISCOUNT: " +
ticketI[b][1]);

System.out.println("****************************************");

System.out.println("****************************************");
                                s = 0;
                                x = 0;
```

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                    if (ticketS[b][2].equals("x")) {
                        System.out.println("Passenger's Already Paid!");
                        x = 0;
                    } else {
                        ticketS[b][2] = "x";
                        for (x = 1; x == 1;) {
                            System.out.println("\nPASSENGER'S TOTAL FARE: $" +
ticketD[b][2]);
                            System.out.print("ENTER AMOUNT TO PAY: ");
                            pay[b] = Double.parseDouble(in.readLine());
                            change[b] = pay[b] - ticketD[b][2];

                            if (change[b] < 0) {
                                System.out.println("Invalid Input!");
                                x = 1;
                            } else {
                                System.out.println("CHANGE: $" + change[b]);
                                System.out.println("");
                                x = 0;
                            }
                        }
                    }
                }
            }
            if (s == 1) {
                System.out.println("\nPASSENGER'S NAME NOT FOUND!\n");
                for (int q = 1; q == 1;) {
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```
                        System.out.print("Do you wish to continue with this transaction?
[Y/N]: ");
                        again = in.readLine();

                        if (again.equalsIgnoreCase("y")) {
                           q = 0;
                        } else if (again.equalsIgnoreCase("n")) {
                           q = 0;
                           x = 0;

                        } else {
                           System.out.println("\nInvalid input!\n");
                        }

                     }
                  }
               }

            } else if (choice.equals("4")) {
               for (int sx = 1; sx <= 3;) {
                  System.out.print("SEARCH PASSENGER'S NAME: ");
                  search = in.readLine();
                  int s = 1;
                  for (x = 0; x <= z; x++) {
                     if (search.equalsIgnoreCase(ticketS[x][0])) {

System.out.println("**************************************");
                        System.out.println("**       PASSENGER'S DETAILS       **");
```

```
System.out.println("****************************************");
                        System.out.println("PASSENGER'S NAME: " + ticketS[x][0]);
                        System.out.println("PASSENGER'S DESTINATION : " + ticketS[x][1]);
                        System.out.println("FARE PRICE: $" + ticketD[x][0]);
                        System.out.println("NO. OF PASSENGERS: " + ticketI[x][0]);
                        System.out.println("NO. OF PASSENGERS WITH DISCOUNT: " +
ticketI[x][1]);
                        System.out.println("TOTAL FARE PRICE: $" + ticketD[x][2]);
                        if (ticketS[x][2].equals("x")) {
                           System.out.println("PAY: $" + pay[x]);
                           System.out.println("CHANGE: $" + change[x]);
                           System.out.println("STATUS: PAID");
                        } else {
                           System.out.println("STATUS: NOT PAID");
                        }

System.out.println("****************************************");

System.out.println("****************************************");
                           s = 0;
                           sx = 4;
                        }
                     }
                     if (s == 1) {
                        System.out.println("Passenger's Name not found!");
                        sx++;
                     }
```

```
        }
    } else if (choice.equals("5")) {
        end = 1;
        x = 0;
        System.out.println("Thank You!");
    } else {
        System.out.println("Invalid Input!");
        x = 1;
    }
}

for (y = 1; y == 1;) {
    if (end == 1) {
        break;
    }
    System.out.print("Do you want another transaction? [Y/N]: ");
    yn = in.readLine();

    if (yn.equalsIgnoreCase("y")) {
        x = 1;
        y = 0;
    } else if (yn.equalsIgnoreCase("n")) {
        System.out.println("\nThank You!!!");
        break;
    } else {
        System.out.println("Invalid Input!!!");
        y = 1;
    }
```

```
                }
            }
            i = 4;
        } else {
            System.out.println("\nInvalid user or password!\n");
            i++;
        }
    }
  }
}
```