Class Seat

```
public class Seat {

    private int seatNo;

    //normal constructor     public Seat(int
seatNo) {         this.seatNo = seatNo;
    }

    //getter
    public int getSeatNo() {         return seatNo;
    }
    public String toString() {
        return  "\nseatNo: " + seatNo;/* + "\nAvailable: " + available*/
    }
}
```

Class Bus

```
public abstract class Bus {     private String
trip;     private String date;


    //normal constructor
    public Bus(String trip, String date) {         this.trip =
trip;         this.date = date;
    }

    //setter
    public void setBus(String trip, String date) {         this.trip= trip;
this.date = date;
    }

    //getter
    public String getTrip() {         return trip;
    }      public String getDate() {
return date;
    }      public abstract double calcProfit(double totalPerBas);
     public abstract String toString(); }
```

Class premiumBus

```
public class premiumBus extends Bus {
    private String registerNo;    private
String mealSet;    private boolean
fullBook;

   //normal constructor
   public premiumBus(String trip, String date, String registerNo, String mealSet, boolean fullBook)
{       super(trip, date);       this.registerNo = registerNo;       this.mealSet = mealSet;
this.fullBook = fullBook;
   }

   //setter
   public void setRegisterNo(String registerNo) {       this.registerNo = registerNo;
   }
   public void setMealSet(String mealSet) {       this.mealSet = mealSet;
   }
   public void setFullBook(boolean fullBook) {       this.fullBook = fullBook;
   }

   //getter
   public String getRegisterNo() {       return registerNo;
   }
   public String getMealSet() {       return mealSet;
   }
   public boolean isFullBook() {       return fullBook;
   }

   //AbstractMethod
   public double calcProfit(double totalPerBas) {       return totalPerBas -
1960;
   }
   public String toString(){
      return "\nBus Trip: " + getTrip() + "\nDate: " + getDate() +
"\nRegister No: " + registerNo + "\nMeal Set: " + getMealSet() + "\nFull
Book: " + isFullBook();
   }
}
```

Class Customer

```
public class Customer {    private String
name;    private String email;    private
int origin;    private int destination;

   //normal constructor
   public Customer(String name, String email, int origin, int destination)
{       this.name = name;       this.email = email;
this.origin = origin;       this.destination =
destination;
   }
```

```
   //setter
   public void setCustomer(String name, String email, int origin, int destination) {
this.name = name;         this.email = email;         this.origin = origin;         this.destination =
destination;
   }

   //getter
   public String getName() {         return name;
   }
   public String getEmail() {         return email;
   }      public int getOrigin() {
return origin;
   }      public int getDestination() {
return destination;
   }      public double calcPrice() {
double total = 0;         double sst = 0.08;
if(origin == 1){
          if(destination == 2) total = 210;             if(destination == 3) total = 450;
if(destination == 4) total = 500;
       }
       if(origin == 2){
          if(destination == 1) total = 210;             if(destination == 3) total = 260;
if(destination == 4) total = 290;
       }
       if(origin == 3){
          if(destination == 1) total = 450;             if(destination == 2) total = 260;
if(destination == 4) total = 200;         }         if(origin == 4){
          if(destination == 1) total = 500;             if(destination == 2) total = 290;
if(destination == 3) total = 200;
       }
       return total * (1 + sst);
   }
   public String toString() {
      return "Name: "+name+"\nEmail: "+email+"\nOrigin: "+origin +
"\nDestination: " + destination;
   }
}
```

AppBus

```
import java.util.*; import java.io.*;
import java.util.StringTokenizer;

public class AppBus {
   public static void main(String[] args){

      Scanner scan = new Scanner(System.in);        Scanner scan1 =
new Scanner(System.in);

      int choose = 0, choose1 = 0, choose2 = 0;        do {
         System.out.print("\n==== Premium Bus Booking System ====\n\n" + "1 - Customer\n2 -
Admin Centre (Check-In Here)\n3 - Exit System\n\nEnter Your Choice: ");
         choose = scan1.nextInt();

         //VariableDeclareForBus
         String[] trip = new String[100];
         String[] date = new String[100];
         String[] registerNo = new String[100];            String[] mealSet = new
String[100];            boolean[] fullBook = new boolean[100];

         //VariableDeclareForCustomer
         String[] nameData = new String[100];
         String[] emailData = new String[100];            int[] oriData
= new int[100];            int[] destData = new int[100];
String[] regNoData = new String[100];            int[] seatData = new
int[100];

         if (choose == 1) {
            System.out.print("Customer Pax: ");               int size =
scan1.nextInt();
            Customer[] c = new Customer[size];

            for(int i=0; i < size; i++) {                  System.out.print("Name: ");
               String name = scan.nextLine();
               System.out.print("Email: ");
               String email = scan.nextLine();
               System.out.print("Origin [1 - PEN | 2 - KL | 3 - JHR |
4 - SIN]: ");
               int ori = scan1.nextInt();
               System.out.print("Destination [1 - PEN | 2 - KL | 3 - JHR | 4 - SIN]: ");
               int dest = scan1.nextInt();

               //InputForNewCustomer
               c[i] = new Customer(name, email, ori, dest);
               //TestToGetBus
               int testTrip = ori - dest;                  String tripCus;
               if(testTrip == -1 || testTrip == -2 || testTrip == -3){                  tripCus = "PEN - SIN";
               }else tripCus = "SIN - PEN";

               int bus = 0, cus = 0, seatSet = 0;
 try{
      BufferedReader inBus = new BufferedReader(new
FileReader("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Bus.txt"));
```

```
        BufferedReader inCus = new BufferedReader(new
FileReader("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Customer.txt"));

        String inData = null;
        while((inData = inBus.readLine()) != null){
            StringTokenizer st = new StringTokenizer(inData,";");            trip[bus] =
st.nextToken();            date[bus] = st.nextToken();            registerNo[bus] =
st.nextToken();            mealSet[bus] = st.nextToken();
            fullBook[bus] = Boolean.parseBoolean(st.nextToken());            bus++;
        }//endWhileBus

        String inData1 = null;
        while((inData1 = inCus.readLine()) != null){
            StringTokenizer st = new StringTokenizer(inData1,";");            nameData[cus] =
st.nextToken();            emailData[cus] = st.nextToken();
            oriData[cus] = Integer.parseInt(st.nextToken());            destData[cus] =
Integer.parseInt(st.nextToken());            regNoData[cus] = st.nextToken();
            seatData[cus] = Integer.parseInt(st.nextToken());            cus++;
}//endWhileCustomer
         premiumBus[] pb = new premiumBus[bus];
Customer[] cusT = new Customer[cus];
        Seat[] st = new Seat[cus];

        for (int i1=0; i1<bus; i1++){
            pb[i1] = new premiumBus(trip[i1], date[i1], registerNo[i1], mealSet[i1], fullBook[i1]);
        }
        for (int i1=0; i1<cus; i1++){
            cusT[i1] = new Customer(nameData[i1], emailData[i1], oriData[i1], destData[i1]);
            st[i1] = new Seat(seatData[i1]);
        }

        //SearchForAvailableBus        for (int i1=0;
i1<bus; i1++){
            if(Objects.equals(trip[i1], tripCus)){
                System.out.print("\nAvailable Date: " + date[i1] + " - Bus
No.: " + registerNo[i1] + " || Full Book: " + fullBook[i1]);            }
        }
        //CustomerChooseBaseOnDate
        System.out.print("\n\nChoose Bus No. : ");
        String chooseBus = scan.nextLine();

              //SearchSeat&Set
        int countSpB = 0;        for (int i1=0; i1<bus;
i1++){
            if(Objects.equals(pb[i1].getRegisterNo(), chooseBus)){              for (int i2=0; i2 < cus;
i2++){                  if(Objects.equals(registerNo[i1], regNoData[i2])){countSpB++;}
                }
                seatSet = countSpB + 1;              countSpB++;
                if(countSpB == 14) pb[i1].setFullBook(true);
            }
        }
        //UpdateData
        PrintWriter outBus = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Bus.txt")));
```

```
        PrintWriter outCus = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Customer.txt")));

        for(int i1=0; i1 < bus; i1++) {
            outBus.print(pb[i1].getTrip() + ";" + pb[i1].getDate() + ";" + pb[i1].getRegisterNo() + ";" +
pb[i1].getMealSet() + ";" + pb[i1].isFullBook() + "\n");
        }
        for (int i1 = 0; i1 < bus; i1++) {              for (int i2 = 0; i2 <
cus; i2++) {
                if (Objects.equals(regNoData[i2], registerNo[i1])) {
outCus.print(cusT[i2].getName() + ";" + cusT[i2].getEmail() + ";" + cusT[i2].getOrigin() + ";" +
cusT[i2].getDestination() + ";" + regNoData[i2] + ";" + seatData[i2] +
"\n");
                }
            }        }
        outCus.print(c[i].getName() + ";" + c[i].getEmail() + ";" + c[i].getOrigin() + ";" +
c[i].getDestination() + ";" + chooseBus + ";" + seatSet + "\n");

        String oriN = "", destN = "";          if(ori == 1) {oriN =
"PENANG";}          if(ori == 2) {oriN = "KUALA LUMPUR";}
if(ori == 3) {oriN = "JOHOR";}          if(ori == 4) {oriN =
"SINGAPORE";}
         if(dest == 1) {destN = "PENANG";}          if(dest == 2)
{destN = "KUALA LUMPUR";}          if(dest == 3) {destN =
"JOHOR";}          if(dest == 4) {destN = "SINGAPORE";}

System.out.println("\n=======================================\n\t\t\tPREMI UM BUS\n\t
[PEN-KUL-JHR-SIN]\n\n" +
                "CUSTOMER DETAIL\nName\t: " + name + "\nEmail\t: " + email
+ "\nOrigin\t: " + oriN + "\t\tDestination\t: "
                + destN  + "\nSeat\t: " + seatSet + "\n\nBUS
DETAIL\nTrip\t: " + tripCus + "\nBus. No\t: " + chooseBus + "\n\nTRIP FARE\nTotal\t: RM"
                + String.format("%.2f", c[i].calcPrice()) +
"\n========================================"); scan.nextLine();
         inBus.close();
inCus.close();
outBus.close();
outCus.close();
}//end try
catch(FileNotFoundException fe) {
   System.out.println(fe.getMessage());
} catch(IOException iox) {
   System.out.println(iox.getMessage());
} catch(Exception e){
   System.out.println("problem: " +e.getMessage());
}
} }
if (choose == 2){     do {
                    int bus = 0, cus = 0; try{
   BufferedReader inBus = new BufferedReader(new
FileReader("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Bus.txt"));
   BufferedReader inCus = new BufferedReader(new
FileReader("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Customer.txt"));
```

```
   String inData = null;
   while((inData = inBus.readLine()) != null){
      StringTokenizer st = new StringTokenizer(inData,";");         trip[bus] =
st.nextToken();         date[bus] = st.nextToken();         registerNo[bus] =
st.nextToken();         mealSet[bus] = st.nextToken();
      fullBook[bus] = Boolean.parseBoolean(st.nextToken());         bus++;
}//endWhileBus

   String inData1 = null;
   while((inData1 = inCus.readLine()) != null){
      StringTokenizer st = new StringTokenizer(inData1,";");         nameData[cus] =
st.nextToken();         emailData[cus] = st.nextToken();
      oriData[cus] = Integer.parseInt(st.nextToken());         destData[cus] =
Integer.parseInt(st.nextToken());         regNoData[cus] = st.nextToken();
      seatData[cus] = Integer.parseInt(st.nextToken());         cus++;
}//endWhileCustomer

   premiumBus[] pb = new premiumBus[bus];
   Customer[] cusT = new Customer[cus];
   Seat[] st = new Seat[cus];

   for (int i1=0; i1<bus; i1++){
      pb[i1] = new premiumBus(trip[i1], date[i1], registerNo[i1], mealSet[i1], fullBook[i1]);
   }
   for (int i1=0; i1<cus; i1++){
      cusT[i1] = new Customer(nameData[i1], emailData[i1], oriData[i1], destData[i1]); st[i1] = new
Seat(seatData[i1]);
   }

   //FullBookUpdate     for (int i1=0; i1<bus;
i1++){         int countSpB = 0;
      for (int i2=0; i2 < cus; i2++) {
         if (Objects.equals(pb[i1].getRegisterNo(), regNoData[i2]))
{countSpB ++;}
}
         if(countSpB >= 14) pb[i1].setFullBook(true);
   }
   //UpdateData
   PrintWriter outCus = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM
CS110\\Customer.txt")));
    for (int i1 = 0; i1 < bus; i1++) {         double totalPrice
= 0;         for (int i2 = 0; i2 < cus; i2++) {
         if (Objects.equals(regNoData[i2], pb[i1].getRegisterNo())) {
outCus.print(cusT[i2].getName() + ";" + cusT[i2].getEmail() + ";" + cusT[i2].getOrigin() + ";" +
cusT[i2].getDestination() + ";" + regNoData[i2] + ";" + seatData[i2] + "\n");                totalPrice +=
cusT[i2].calcPrice();
         }        }
      pb[i1].calcProfit(totalPrice);
   }    inBus.close();
inCus.close();
outCus.close();
    do {
System.out.print("\n==== Admin Centre ====\n\n" + "1 - Bus\n2 -
Passenger\n3 - Exit to Main\n\nEnter Your Choice: "); choose1 =
scan1.nextInt(); if (choose1 == 1) {
```

```
   do {
      System.out.print("\n==== Bus Operator ====\n\n" + "1 - Bus List
Print\n2 - Full Book Count\n3 - Update Meal Set\n4 - Exit to Admin Centre\n\nEnter Your
Choice: ");        choose2 = scan1.nextInt();        if (choose2 == 1) {
         PrintWriter outBusPenSin = new PrintWriter(new
BufferedWriter(new FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2
UiTM CS110\\Bus PEN - SIN.txt")));
         PrintWriter outBusSinPen = new PrintWriter(new
BufferedWriter(new FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2
UiTM CS110\\Bus SIN - PEN.txt")));

         outBusPenSin.print("\t\t\tPremium Bus List\n\n\nTrip: PEN - SIN\n\n\nBus No.\t\tDate\t\t\tMeal
Set\t\t\t\t\tFull Book\tGross Profit
(RM)\n=======\t\t====\t\t\t========\t\t\t\t\t=========\t================")
;                        outBusSinPen.print("\t\t\tPremium  Bus  List\n\n\nTrip:  SIN  -  PEN\n\n\nBus
No.\t\tDate\t\t\tMeal Set\t\t\t\t\tFull Book\tGross Profit
(RM)\n=======\t\t====\t\t\t========\t\t\t\t\t=========\t================")
;
         for (int i1=0; i1<bus; i1++){              double totalPrice =
0;
            for (int i2 = 0; i2 < cus; i2++) {if
(Objects.equals(regNoData[i2], pb[i1].getRegisterNo())) {totalPrice += cusT[i2].calcPrice();}}
             if(Objects.equals(pb[i1].getTrip(), "PEN - SIN")){                  outBusPenSin.print("\n"
+  pb[i1].getRegisterNo()  +  "\t\t"  +  pb[i1].getDate()  +  "\t"  +  pb[i1].getMealSet()  +  "\t"  +
pb[i1].isFullBook() + "\t\t"
                     + String.format("%.2f", pb[i1].calcProfit(totalPrice)));
            }else{
               outBusSinPen.print("\n" + pb[i1].getRegisterNo() + "\t\t" + pb[i1].getDate() + "\t" +
pb[i1].getMealSet() + "\t" + pb[i1].isFullBook() + "\t\t"
                     + String.format("%.2f", pb[i1].calcProfit(totalPrice)));
            }          }
         outBusPenSin.close();          outBusSinPen.close();
      }
      if (choose2 == 2) {          int countFullBook = 0;
for (int i1=0; i1<bus; i1++){
            if(pb[i1].isFullBook()){countFullBook++;}
         }
         System.out.println("Full Book Update: " + countFullBook);
      }
      if (choose2 == 3) {
         System.out.print("Enter Bus No. Registered that want to Update:
");
         String busNo = scan.nextLine();

         for (int i1=0; i1<bus; i1++){
            if(Objects.equals(busNo, pb[i1].getRegisterNo())){                  System.out.println("Current
Meal Set: " + pb[i1].getMealSet());
               System.out.print("Update Meal Set Here: ");
               String newMeal = scan.nextLine();                  pb[i1].setMealSet(newMeal);
               System.out.println("Update Process Done");
            }
         }
      }
   } while (choose2 != 4);
} if (choose1 == 2) {
do {
```

```
   System.out.print("\n==== Passenger HUB ====\n\n" + "1 - Passengers List Print\n2 - Check-In\n3
- Exit to Admin Centre\n\nEnter Your Choice: ");     choose2 = scan1.nextInt();

   if(choose2 == 1){
      PrintWriter outPassenger = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM CS110\\Passenger List.txt")));
      outPassenger.print("\t\t\t\tPassengers
List\n_____
_____\n");        for(int i1=0; i1
< bus; i1++) {
          outPassenger.print("\n\n+----------------------------------------------------------------------------------------------
+\n\n Bus No. :" + pb[i1].getRegisterNo()
                  + "\n\n
Seat\tName\t\t\tEmail\t\t\t\t\tOrigin\tDestination\n
====\t====\t\t\t=====\t\t\t\t\t======\t==========");            for(int i2=0; i2 <
cus; i2++) {
             if(Objects.equals(regNoData[i2], pb[i1].getRegisterNo())){
outPassenger.print("\n " + seatData[i2] +"\t"+ cusT[i2].getName() + "\t\t" + cusT[i2].getEmail() + "\t\t\t"
+ cusT[i2].getOrigin() + "\t\t" + cusT[i2].getDestination());
             }
          }       }
      outPassenger.close();
   }
   if(choose2 == 2){
      System.out.print("Enter Email: ");
      String email = scan.nextLine();
PrintWriter outCheckInTicket = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM CS110\\CheckIn Ticket.txt")));
             for(int i1=0; i1 < bus; i1++) {                  for (int i2 = 0; i2 <
cus; i2++) {
                  if (Objects.equals(email, cusT[i2].getEmail()) &&
Objects.equals(pb[i1].getRegisterNo(), regNoData[i2])) {
                     outCheckInTicket.print("-------------------------------------------------\n\t PREMIUM BUS
>> BOARDING PASS\n---------
-----------------------------------------
\n_____\n"
                           + "\n" + "PASSENGER
DETAILS\n_____\n\n" +
"NAME \t\t: " + cusT[i2].getName()
                           + "\nEMAIL\t\t: " + cusT[i2].getEmail() + "\nORIGIN\t\t: " + cusT[i2].getOrigin() +
"\nDESTINATION\t: " + cusT[i2].getDestination()
                           + "\n\nDATE \t\t: "+ pb[i1].getDate() +
"\nSEAT NO.\t: " + seatData[i2] +
"\n_____\n\nBUS
DETAILS\n_____\n\n"
                           + "TRIP ID \t: " + pb[i1].getTrip() + "\nBUS NO.\t\t: " + pb[i2].getRegisterNo()
+ "\nMEAL (Free-Flow): " + pb[i1].getMealSet() + "\n" +
"_____\t\nFriendly Reminder :\nWe
would like to kindly remind our loving customer\n" +
                           "that if you are travelling to SINGAPORE or from\nSINGAPORE, don't forget to
bring along any\n" +
                           "essential paperwork such as IDENTITY
CARD & PASSPORT.\n-----------------------------------------------------
\n\n-----------------------------------------------------");
                     }
                  }              }
             outCheckInTicket.close();
```

```
            }

        }while (choose2 != 3);
    }
}while (choose1 != 3);
PrintWriter outBus = new PrintWriter(new BufferedWriter(new
FileWriter("C:\\Users\\User\\OneDrive\\文档\\SEMESTER 2 UiTM CS110\\Bus.txt")));
                    for(int i1=0; i1 < bus; i1++) {                    outBus.print(pb[i1].getTrip() + ";" +
pb[i1].getDate() + ";" + pb[i1].getRegisterNo() + ";" + pb[i1].getMealSet()
+ ";" + pb[i1].isFullBook() + "\n");
                    }

                    outBus.close();
                }//end try
                catch(FileNotFoundException fe) {                    System.out.println(fe.getMessage());
                } catch(IOException iox) {
                    System.out.println(iox.getMessage());
                } catch(Exception e){
                    System.out.println("problem: " +e.getMessage());
                }
            }while (choose1 != 3);
        }
    }while (choose != 3);
  }
}
```