```
//Mickie Blair
//Java I – CIST 2371
//Mid-Project - Cell Phone - Part 1

/*
 * Write a program that calculates and prints the bill
 * for a cellular telephone company.
 */

package cellphonepart1;

import javax.swing.JOptionPane;

public class CellPhonePart1
{

   public static void main(String[] args)
   {
      //Declare and initialize constants
      final double REG_FEE = 10.00;                    //Constant - regular base fee
      final int REG_FREE_MM = 50;                      //Constant - free regular minutes
      final double REG_MM_CHARGE = .20;                //Regular Service - per minute charge
      final double PREM_FEE = 25.00;                   //Constant - premium  base fee
      final int PREM_FREE_DAY_MM = 75;                 //Constant - free premium day minutes
      final int PREM_FREE_NIGHT_MM = 100;              //Constant - free premium night minutes
      final double PREM_DAY_MM_CHARGE = .10;           //Premium Service - per minute Day charge
      final double PREM_NIGHT_MM_CHARGE = .05;         //Premium Service - per minute Night charge

      //Declare remaining variables
      int accountNumber;                               //Variable for account number
      char serviceCode;                                //Variable for service code
      int totalMinutes = 0;                            //Variable to hold total Minutes
      int billableRegMinutes;                          //Variable for billable minutes Regular Service
      double minutesUsedFee;                           //variable to fee for minutes used
      int dayMinutes;                                  //Variable to hold day minutes
      int billableDayMinutes;                          //Variable for billable minutes Day Minutes(Premium)
      double dayMinutesFee;                            //Variable for day minutes fee
      int nightMinutes;                                //Variable to hold night minutes
      int billableNightMinutes;                        //Variable for billable minutes Night Minutes(Premium)
      double nightMinutesFee;                          //Variable for night minutes
      double amountDue = 0;                            //Variable for amount due
      String input;                                    //Variable to hold input before conversion

      //Display introduction
      JOptionPane.showMessageDialog(null,"\nCellular Bill Calculator\n"
                        + "\nThe program will calculate the "
                        + "cell phone bill using data gathered\n "
                        + "from the user.  After all data has "
                        + "been entered, a bill will be printed.\n");

      //Ask user for account number and store in variable
      input = JOptionPane.showInputDialog("Enter Account Number: ");
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```
        //Convert input to int and store in account number variable
        accountNumber = Integer.parseInt(input);

        //Ask user for service code and store in variable
        input = JOptionPane.showInputDialog("\nType of Service:\n "
                        + "\nFor Regular Service - Enter R\n"
                        + "\nFor Premium Service - Enter P\n"
                        + "\n");

        //convert input to uppercase
        input = input.toUpperCase();

        //Convert input to char and store in service code variable
        serviceCode = input.charAt(0);

        //validation loop for service code
        while ((serviceCode != 'R') && (serviceCode != 'P'))
        {
        // Display Error message and ask user for service code and store in variable
        input = JOptionPane.showInputDialog("\nThe Service Code is Invalid.\n"
                        + "\nPlease Try Again.\n"
                        + "\n\nType of Service:\n "
                        + "\nFor Regular Service - Enter R\n"
                        + "\nFor Premium Service - Enter P\n"
                        + "\n");

        //convert input to uppercase
        input = input.toUpperCase();

        //Convert input to char and store in service code variable
        serviceCode = input.charAt(0);
        }

        //if - if else statements for minute input
        if (serviceCode =='R')
        {
           //Ask user for the number of minutes and store in variable
           input = JOptionPane.showInputDialog("Enter the number of minutes "
                        + "the service was used. " );

           //Convert input to int and store in account number variable
           totalMinutes = Integer.parseInt(input);


//calculate bill if minutes do not exceed free minutes
        if (totalMinutes <= REG_FREE_MM)
           {
              //calculate the amount Due
              amountDue = REG_FEE ;
           }
```

```
//calculate bill if minutes exceed free minutes
        else if (totalMinutes > REG_FREE_MM)
          {
            //calculate the billable minutes
            billableRegMinutes = totalMinutes - REG_FREE_MM;

            //calculate the fee for minutes used
            minutesUsedFee = billableRegMinutes * REG_MM_CHARGE;

            //calculate the amount Due
            amountDue = REG_FEE + minutesUsedFee;

          }

      }


     if (serviceCode =='P')
      {
        //Ask user for the number of minutes used from 6am to 6pm
        input = JOptionPane.showInputDialog("Enter the number of minutes "
                        + "the service \nwas used from "
                        + "6:00am to 6:00pm." );

        //Convert input to int and store in account number variable
        dayMinutes = Integer.parseInt(input);

        //Ask user for the number of minutes used from 6pm to 6am
        input = JOptionPane.showInputDialog("Enter the number of minutes "
                        + "the service \nwas used from "
                        + "6:00pm to 6:00am." );

        //Convert input to int and store in account number variable
        nightMinutes = Integer.parseInt(input);

        //calculate total minutes used
        totalMinutes = dayMinutes + nightMinutes;


// set day and night billable minutes
        if (dayMinutes < PREM_FREE_DAY_MM)
          {
            dayMinutesFee = 0;
          }
        else
          {
            billableDayMinutes = dayMinutes - PREM_FREE_DAY_MM;
            dayMinutesFee = billableDayMinutes * PREM_DAY_MM_CHARGE;
          }
        if (nightMinutes < PREM_FREE_NIGHT_MM)
          {
            nightMinutesFee = 0;
          }
```

```
        else
          {
            billableNightMinutes = nightMinutes - PREM_FREE_NIGHT_MM;
            nightMinutesFee = billableNightMinutes * PREM_NIGHT_MM_CHARGE;
          }

        //calculate bill
        if (dayMinutesFee==0 && nightMinutesFee==0)
          {
            //calculate the amount Due
            amountDue = PREM_FEE ;
          }

        else
          {
            //calculate the amount Due
            amountDue = PREM_FEE + dayMinutesFee + nightMinutesFee;
          }

      }

    //Print Bill

    System.out.println( "\nCellular Telephone Bill");
    System.out.println( "-----------------------");

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

    if (serviceCode == 'R')
    {
      System.out.println("Type of Service: Regular" );
    }

    if (serviceCode == 'P')
    {
      System.out.println("Type of Service: Premium" );
    }

    System.out.println();

    System.out.printf("Minutes Used: %8d", totalMinutes);

    System.out.println();

    System.out.printf("Amount Due:     $%5.2f\n" , amountDue);

     System.out.println();

    System.exit(0);
    }

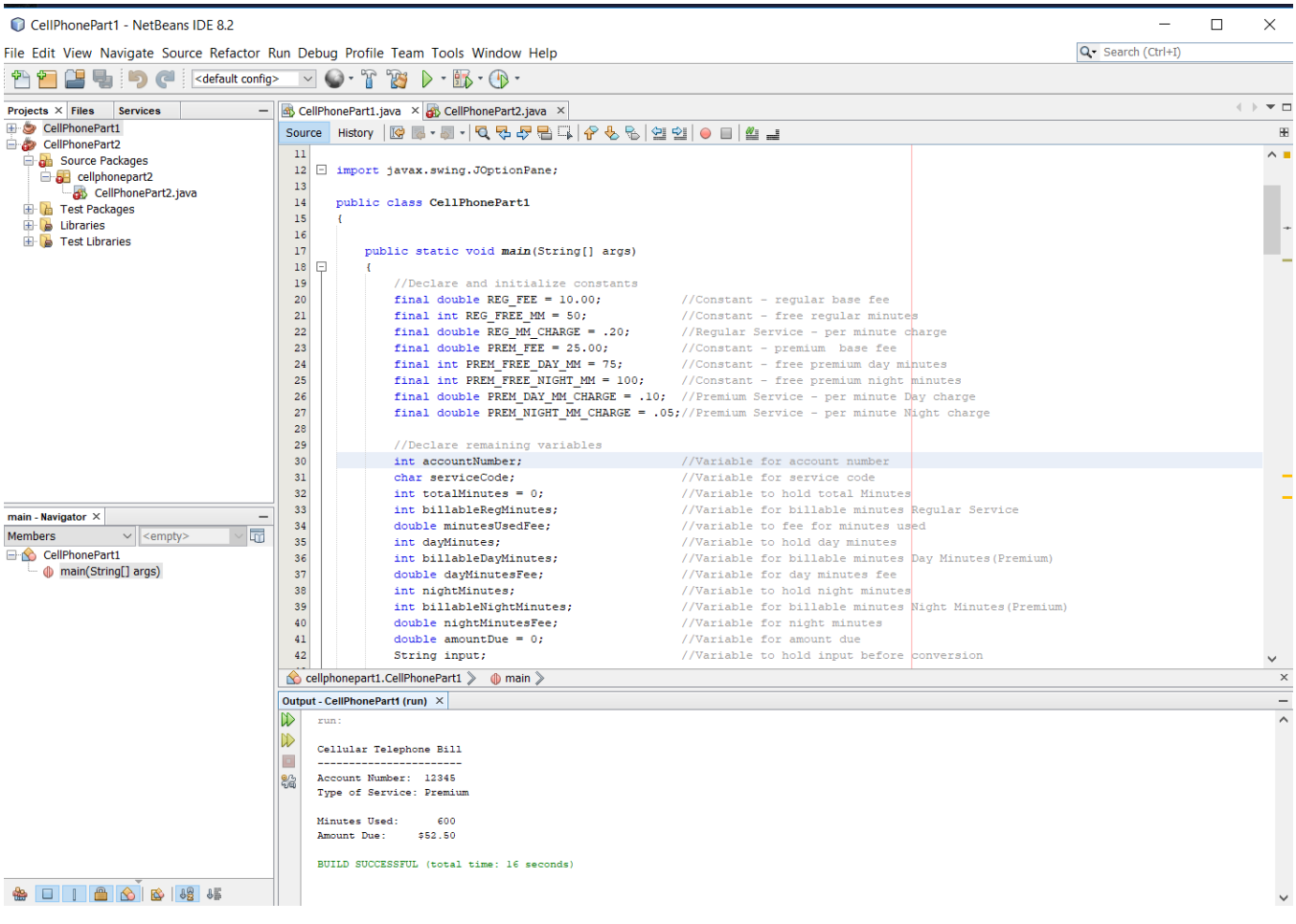
}
```

OUTPUT

Cellular Telephone Bill

Account Number: 12345
Type of Service: Premium

Minutes Used: 600
Amount Due: $52.50



```
//Mickie Blair
//Java I – CIST 2371
//Mid-Project - Cell Phone - Part 2

/*
 * Write a program that calculates and prints the bill
 * for a cellular telephone company using methods
 * named regularBill and premiumBill
 */

package cellphonepart2;

import javax.swing.JOptionPane;

public class CellPhonePart2 {

   /**
    *
    * @param args the command line arguments
    */
   public static void main(String[] args)
   {

      String input;                    //input from user before conversion
      int accountNumber;                  //account number
      char serviceCode;                 //service code
      double amountDue = 0;               //amount due
      int totalMinutes;                 //total minutes - regular service
      int dayMinutes;                   //day minutes - premium service
      int nightMinutes;                 //night minutes - premium service

      //Display introduction
      JOptionPane.showMessageDialog(null,"\nCellular Bill Calculator\n"
                           + "\nThe program will calculate the "
                           + "cell phone bill using data gathered\n "
                           + "from the user.  After all data has "
                           + "been entered, a bill will be printed.\n");

      //Ask user for account number and store in variable
      input = JOptionPane.showInputDialog("Enter Account Number: ");

      //Convert input to int and store in account number variable
      accountNumber = Integer.parseInt(input);

      //Ask user for service code and store in variable
      input = JOptionPane.showInputDialog("\nType of Service:\n "
                           + "\nFor Regular Service - Enter R\n"
                           + "\nFor Premium Service - Enter P\n"
                           + "\n");

      //convert input to uppercase
      input = input.toUpperCase();
```

```
//Convert input to char and store in service code variable
serviceCode = input.charAt(0);

//validation loop for service code
while ((serviceCode != 'R') && (serviceCode != 'P'))
{
// Display Error message and ask user for service code and store in variable
input = JOptionPane.showInputDialog("\nThe Service Code is Invalid.\n"
                    + "\nPlease Try Again.\n"
                    + "\n\nType of Service:\n "
                    + "\nFor Regular Service - Enter R\n"
                    + "\nFor Premium Service - Enter P\n"
                    + "\n");

//convert input to uppercase
input = input.toUpperCase();

//Convert input to char and store in service code variable
serviceCode = input.charAt(0);
}

//if  statements for regular service
if (serviceCode =='R')
{
   //Ask user for the number of minutes and store in variable
   input = JOptionPane.showInputDialog("Enter the number of minutes "
                    + "the service was used. " );

   //Convert input to int and store in account number variable
   totalMinutes = Integer.parseInt(input);

   //call nethod for the amount due
   amountDue = regularBill(totalMinutes);

}

if (serviceCode =='P')
{
   //Ask user for the number of minutes used from 6am to 6pm
   input = JOptionPane.showInputDialog("Enter the number of minutes "
                    + "the service \nwas used from "
                    + "6:00am to 6:00pm." );

   //Convert input to int and store in account number variable
   dayMinutes = Integer.parseInt(input);

   //Ask user for the number of minutes used from 6pm to 6am
   input = JOptionPane.showInputDialog("Enter the number of minutes "
                    + "the service \nwas used from "
                    + "6:00pm to 6:00am." );

   //Convert input to int and store in account number variable
   nightMinutes = Integer.parseInt(input);
```

```
      //call nethod for the amount due
      amountDue = premiumBill(dayMinutes, nightMinutes);
   }

//Print Bill

System.out.println( "\nCellular Telephone Bill");
System.out.println( "-----------------------");

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

if (serviceCode == 'R')
{
  System.out.println("Type of Service: Regular" );
}

if (serviceCode == 'P')
{
  System.out.println("Type of Service: Premium" );
}

System.out.println();

System.out.printf("Amount Due:     $%5.2f\n" , amountDue);

System.out.println();

System.exit(0);
}

 /**
 * @param totalMinutes total minutes service was used
 * @return amountDue Amount of Bill
 */
public static double regularBill(int totalMinutes)
{
   //Declare and initialize constants
   final double REG_FEE = 10.00;      //Constant - regular base fee
   final int REG_FREE_MM = 50;        //Constant - free regular minutes
   final double REG_MM_CHARGE = .20;   //Regular Service - per minute charge

   //declare local variables
   int billableRegMinutes;            //billable minutes Regular Service
   double minutesUsedFee;             //fee for minutes used
   double billTotal = 0;              //amount due to be returned

   //calculate bill if minutes do not exceed free minutes
   if (totalMinutes <= REG_FREE_MM)
      {
         //calculate the amount Due
         billTotal = REG_FEE ;
      }
```

```
   //calculate bill if minutes exceed free minutes
   else if (totalMinutes > REG_FREE_MM)
      {
         //calculate the billable minutes
         billableRegMinutes = totalMinutes - REG_FREE_MM;

         //calculate the fee for minutes used
         minutesUsedFee = billableRegMinutes * REG_MM_CHARGE;

         //calculate the amount Due
         billTotal = REG_FEE + minutesUsedFee;

      }

   //return amount due
   return billTotal;
}

 /**
 * @param dayMinutes minutes service was used between 6:00am and 6:00pm
 * @param nightMinutes minutes service was used between 6:00pm and 6:00am
 * @return amountDue Amount of Bill
 */
public static double premiumBill(int dayMinutes, int nightMinutes)
{
   //Declare and initialize constants
   final double PREM_FEE = 25.00;         //Constant - premium  base fee
   final int PREM_FREE_DAY_MM = 75;       //Constant - free premium day minutes
   final int PREM_FREE_NIGHT_MM = 100;    //Constant - free premium night minutes
   final double PREM_DAY_MM_CHARGE = .10;  //Regular Service - per minute charge
   final double PREM_NIGHT_MM_CHARGE = .05;//Regular Service - per minute charge

   //declare local variable
   int billableDayMinutes;              //Variable for billable minutes Day Minutes(Premium)
   double dayMinutesFee;                 //Variable for day minutes fee
   int billableNightMinutes;            //Variable for billable minutes Night Minutes(Premium)
   double nightMinutesFee;               //Variable for night minutes
   double billTotal;               //amount due to be returned

      // set day and night billable minutes
      if (dayMinutes < PREM_FREE_DAY_MM)
         {
           dayMinutesFee = 0;
         }
      else
         {
            billableDayMinutes = dayMinutes - PREM_FREE_DAY_MM;
            dayMinutesFee = billableDayMinutes * PREM_DAY_MM_CHARGE;
         }
```

```
        if (nightMinutes < PREM_FREE_NIGHT_MM)
          {
            nightMinutesFee = 0;
          }

        else
          {
            billableNightMinutes = nightMinutes - PREM_FREE_NIGHT_MM;
            nightMinutesFee = billableNightMinutes * PREM_NIGHT_MM_CHARGE;
          }

        //calculate bill
        if (dayMinutesFee==0 && nightMinutesFee==0)
          {
            //calculate the amount Due
            billTotal = PREM_FEE ;
          }

        else
          {
            //calculate the amount Due
            billTotal = PREM_FEE + dayMinutesFee + nightMinutesFee;
          }

      //return amount due
      return billTotal;
    }

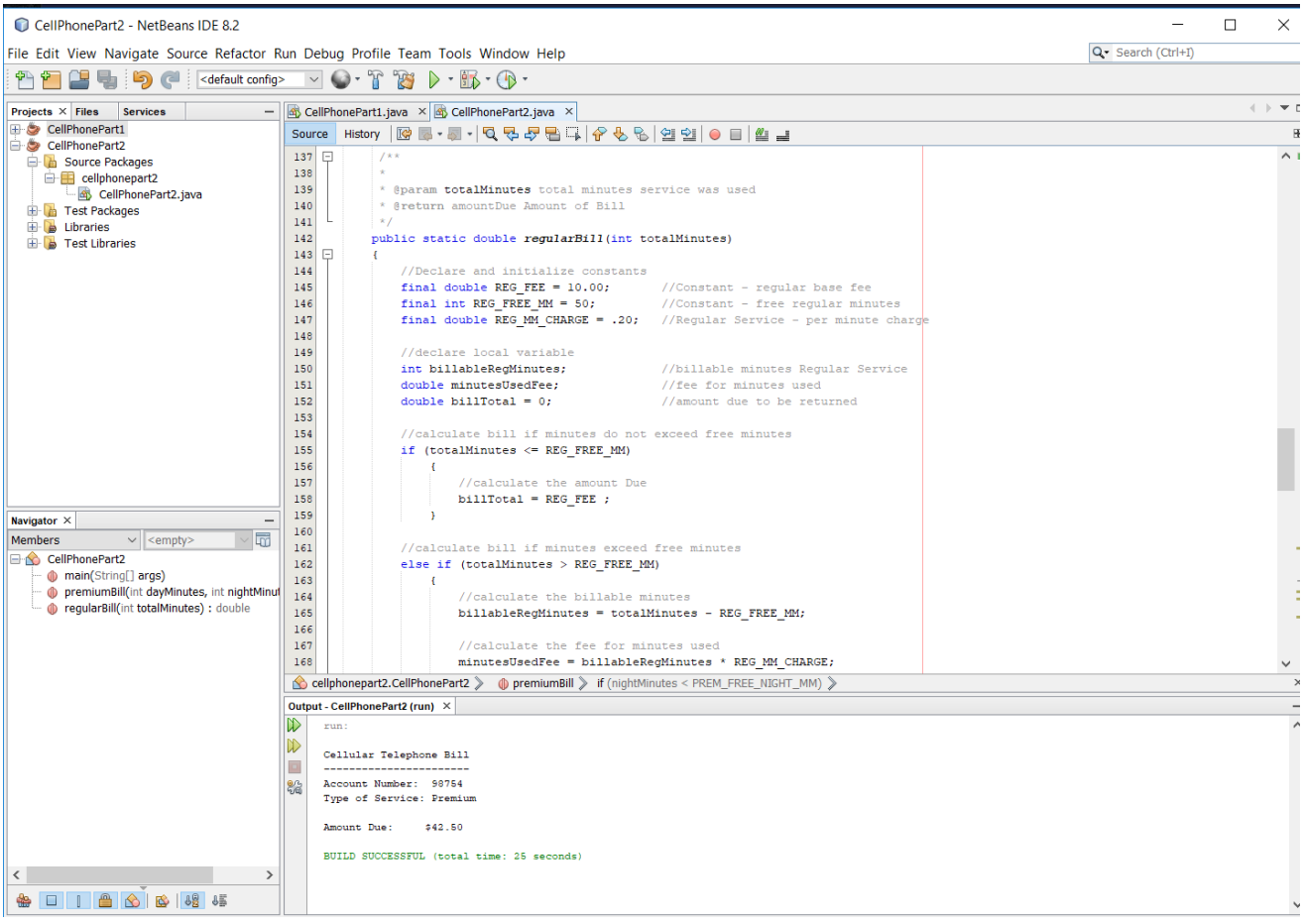
}
```

OUTPUT

Cellular Telephone Bill

Account Number: 98754
Type of Service: Premium

Amount Due: $42.50


CellPhonePart2 - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
<default config>
Projects
Files
Services
CellPhonePart1
CellPhonePart2
Source Packages
cellphonepart2
CellPhonePart2.java
Test Packages
Libraries
Test Libraries
Navigator
Members
<empty>
CellPhonePart2
main(String[] args)
premiumBill(int dayMinutes, int nightMinut
regularBill(int totalMinutes) : double
CellPhonePart1.java
CellPhonePart2.java
Source
History
/**
*
* @param totalMinutes total minutes service was used
* @return amountDue Amount of Bill
*/
public static double regularBill(int totalMinutes)
{
//Declare and initialize constants
final double REG_FEE = 10.00; //Constant - regular base fee
final int REG_FREE_MM = 50; //Constant - free regular minutes
final double REG_MM_CHARGE = .20; //Regular Service - per minute charge
//declare local variable
int billableRegMinutes; //billable minutes Regular Service
double minutesUsedFee; //fee for minutes used
double billTotal = 0; //amount due to be returned
//calculate bill if minutes do not exceed free minutes
if (totalMinutes <= REG_FREE_MM)
{
//calculate the amount Due
billTotal = REG_FEE ;
}
//calculate bill if minutes exceed free minutes
else if (totalMinutes > REG_FREE_MM)
{
//calculate the billable minutes
billableRegMinutes = totalMinutes - REG_FREE_MM;
//calculate the fee for minutes used
minutesUsedFee = billableRegMinutes * REG_MM_CHARGE;
cellphonepart2.CellPhonePart2
premiumBill
if (nightMinutes < PREM_FREE_NIGHT_MM)
Output - CellPhonePart2 (run)
run:
Cellular Telephone Bill
Account Number: 98754
Type of Service: Premium
Amount Due: $42.50
BUILD SUCCESSFUL (total time: 25 seconds)