# Assignment 5

The ABC Community Hospital needs a program to compute and print the billing statement for each of its patient. The following table shows the fees for the various services:

The ABC Community Hospital

Room Type and Charges per Day:

Private $550.0

Semi-private $350.0

Ward $105.00

Flat Fees

Telephone $4.50

Television $7.50

Medication

Base fee $275.00

Write a class called Hospital that accepts the following indicators:

* A five digit string value representing the patient identification number
* The patient’s name (First name and last name)
* An integer representing the number of days the patient is in the hospital.
* A single character representing the type of room the patient chooses. Room type (P/p= private, S/s means semi-private, and W/w means ward)

As part of the billing, note the following:

* If a patient chooses private room, the cost for medication is twice what it is shown on the billing chart; if the patient chooses semi-private, then the cost for medication is what is shown on the billing chart; and if the patient chooses ward, then the medication cost is half what is shown on the billing chart.
* A patient who chooses private room pays for television service and telephone service; a patient who chooses semi-private room pays for television service, and a patient who chooses the ward gets television and telephone services free. These are flat fees (one time fees).

A typical output is as follows

The ABC Community Hospital

Patient Billing Statement

Patient: John Harris

Number of days: 5

Type of room: Private

Room charge …………… $2,750.00

Telephone ………………. $4.50

Television ……………… .$7.50

Medication ……………… $550.00

Total amount due ……………..$3,312.00

Note:

* Use the switch statement to determine the room type, and
* Use the if/else statement to determine the other items

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Hospital Class:

**import** javax.swing.JOptionPane;

**public** **class** Hospital {

**private** String patientId;

**private** String patientName;

**private** **int** numDays;

**private** **char** roomType;

**private** **final** **double** PRIVATE\_ROOM\_FEE = 550.0;

**private** **final** **double** SEMIPRIVATE\_ROOM\_FEE = 350.0;

**private** **final** **double** WARD\_FEE = 105.0;

**private** **final** **double** TELEPHONE\_FEE = 4.5;

**private** **final** **double** TELEVISION\_FEE = 7.5;

**private** **final** **double** BASE\_MEDICATION\_FEE = 275.0;

**public** Hospital(String patientId, String patientName, **int** numDays, **char** roomType) {

**this**.patientId = patientId;

**this**.patientName = patientName;

**this**.numDays = numDays;

**this**.roomType = Character.*toLowerCase*(roomType);

}

**public** **void** printBillingStatement() {

**double** roomCharge = 0.0;

**double** telephoneCharge = 0.0;

**double** televisionCharge = 0.0;

**double** medicationCharge = 0.0;

String roomTypeName = "";

**switch** (roomType) {

**case** 'p':

roomCharge = numDays \* PRIVATE\_ROOM\_FEE;

roomTypeName = "Private";

**break**;

**case** 's':

roomCharge = numDays \* SEMIPRIVATE\_ROOM\_FEE;

roomTypeName = "Semi-private";

**break**;

**case** 'w':

roomCharge = numDays \* WARD\_FEE;

roomTypeName = "Ward";

**break**;

}

**if** (roomType == 'p') {

telephoneCharge = TELEPHONE\_FEE;

televisionCharge = TELEVISION\_FEE;

medicationCharge = 2 \* BASE\_MEDICATION\_FEE;

} **else** **if** (roomType == 's') {

televisionCharge = TELEVISION\_FEE;

medicationCharge = BASE\_MEDICATION\_FEE;

} **else** **if** (roomType == 'w') {

medicationCharge = BASE\_MEDICATION\_FEE / 2;

}

**double** total = roomCharge + telephoneCharge + televisionCharge + medicationCharge;

String output = "The ABC Community Hospital\n" +

" Patient Billing Statement\n" +

"Patient: \t\t" + patientName + "\n" +

"Number of days: \t" + numDays + "\n" +

"Type of room: \t" + roomTypeName + "\n" +

"Room charge......... \t$" + roomCharge + "\n" +

"Telephone............. \t$" + telephoneCharge + "\n" +

"Television............. \t$" + televisionCharge + "\n" +

"Medication............ \t$" + medicationCharge + "\n" +

"Total amount due.. \t$" + total;

JOptionPane.*showMessageDialog*(**null**, output);

}

**public** **static** **void** main(String[] args) {

String patientId = JOptionPane.*showInputDialog*("Enter patient ID:");

String patientName = JOptionPane.*showInputDialog*("Enter patient name:");

**int** numDays = Integer.*parseInt*(JOptionPane.*showInputDialog*("Enter number of days:"));

**char** roomType = JOptionPane.*showInputDialog*("Enter room type (P/p= private, S/s= semi-private, W/w= ward):").charAt(0);

Hospital hospital = **new** Hospital(patientId, patientName, numDays, roomType);

hospital.printBillingStatement();

}

}

Output:

A screenshot of a computer

Description automatically generated