**TASK DESCRIPTION**

This is a program to calculate the bill amount of total books purchased. Books are of different type and there is specific pricing for specific quantity. User is asked to enter the quantity of three types of books and then this program calculates the price of current session. Then it asks user if he/she needs to buy more books. And according to answer further calculation is done for second session or exit, for e.g.: if user says no then program will calculate total bill and it will exit. If user says yes then it will calculate for another session repeating the same process by asking the user to select the books. This is program works according to following steps:

1. Programs starts with welcome to book festival greetings.

2. User is asked to enter the number of large hardback books he/she wants to buy.

3. Then user is asked to enter the number of small hardback books he/she wants to buy.

4. Then user is asked to enter the number of softcover books he/she wants to buy.

5. Then calculator calculates the total bill in this session and asks user that if they want to continue or not.

6. If user says yes then whole process from step2 to step5 is repeated again until user says no.

7. Once user says no then calculator calculates the final total bill amount of all the session and displays the total bill along with individual session’s bill.

8. Then program exits by displaying good bye message.

**TASK OUTPUT**

|  |  |  |
| --- | --- | --- |
| **Test Data** | **Output** | **Screenshot** |
| Session1,  input1.1 - 5  input1.2 - 6  input1.3 - 8  Session2,  input2.1 - 10  input2.2 - 2  input2.3 - 15  Session3,  input3.1 - 23  input3.2 - 25  input3.3 - 10 | Session1 bill – 100  Session2 bill – 125  Session3 bill – 317  Total bill - $542 |  |
| Session1,  input1.1 - 10  input1.2 - 12  input1.3 - 15  Session2,  input2.1 - 20  input2.2 - 21  input2.3 - 12 | Session1 bill – 175  Session2 bill – 287  Total bill - $462 |  |
| Session1,  input1.1 - 8  input1.2 - 9  input1.3 - 10 | Session1 bill – 137  Total bill - $137 |  |

**TASK CODE**

**package** first\_java\_project;

**import** java.util.\*;

**public** **class** book\_purchase\_bills {

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

{

// DECLARING ALL THE NECESSARY VARIABLES

**int** largeHardBookPrice = 0;

**int** smallHardBookPrice = 0;

**int** softCoverBookPrice = 0;

**int** totalBill = 0;

**int** finalTotalBill = 0;

String continueBill = "y";

// PRINTS OUT WELCOME MESSAGE AND BEGINS THE BILL CALCULATION

System.***out***.println("Welcome to the annual book festival!");

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

// METHOD TO TAKE INPUT FROM USER KEYBOARD

Scanner userInput = **new** Scanner(System.***in***);

// WHILE LOOP TO CONTINUE BILLING PROCESS IF UESER WANTS TO CALCULATE ANOTHER BILL

**while**(!continueBill.equals("n") && continueBill.equals("y"))

{

// TAKES USER INPUT FOR LARGE HARDBACK BOOKS

System.***out***.print("Enter the number of large print hardback books purchased: ");

**int** largeHardBookQuantity = userInput.nextInt();

// TAKES USER INPUT FOR SMALL HARDBACK BOOKS

System.***out***.print("Enter the number of small print hardback books purchased: ");

**int** smallHardBookQuantity = userInput.nextInt();

// TAKES USER INPUT FOR SOFTCOVER BOOKS

System.***out***.print("Enter the number of softcover books purchased: ");

**int** softCoverBookQuantity = userInput.nextInt();

// DECLARING NECESSARY VARIABLE REQUIRED FOR CALCULATION

**int** largeHardBookCount = 0;

**int** largeHardBookThreePair = 0;

**int** smallHardBookCount = 0;

**int** smallHardBookTwoPair = 0;

**int** softCoverBookCount = 0;

**int** softCoverBookFivePair = 0;

// FOR LOOP TO CALCULATE BILL AMOUNT FOR LARGE HARDBACK BOOKS

{

**for**(**int** i = largeHardBookQuantity; i > 0; i--)

{

**if**(i%3 == 0)

{

largeHardBookThreePair = i / 3;

**break**;

}

**else** **if**(i%3 != 0)

{

largeHardBookCount++;

}

}

largeHardBookPrice = (largeHardBookThreePair \* 20) + (largeHardBookCount \* 10);

}

// FOR LOOP TO CALCULATE BILL AMOUNT FOR SMALL HARDBACK BOOKS

{

**for**(**int** i = smallHardBookQuantity; i > 0; i--)

{

**if**(i%2 == 0)

{

smallHardBookTwoPair = i / 2;

**break**;

}

**else** **if**(i%2 != 0)

{

smallHardBookCount++;

}

}

smallHardBookPrice = (smallHardBookTwoPair \* 10) + (smallHardBookCount \* 7);

}

// FOR LOOP TO CALCULATE BILL AMOUNT FOR SOFTCOVER BOOKS

{

**for**(**int** i = softCoverBookQuantity; i > 0; i--)

{

**if**(i%5 == 0)

{

softCoverBookFivePair = i / 5;

**break**;

}

**else** **if**(i%5 != 0)

{

softCoverBookCount++;

}

}

softCoverBookPrice = (softCoverBookFivePair \* 15) + (softCoverBookCount \* 5);

}

// CALCULATES TOTAL BILL IN THIS SESSION

totalBill = largeHardBookPrice + smallHardBookPrice + softCoverBookPrice;

System.***out***.println("Your total bill is: " + totalBill);

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

// ASKS USER IF NEED TO CALCULATE ANOTHER BILL

System.***out***.print("Would you like to calculate another bill (y/n)? ");

continueBill = userInput.next();

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

// CALCULATES TOTAL BILL IN ALL SESSIONS

finalTotalBill = finalTotalBill + totalBill;

}

userInput.close();

// END OF PROGRAM WITH DISPLAY OF FINAL BILL AND GOODBYE MESSAGE

System.***out***.println("Total Sales in this session: " + "$" + finalTotalBill);

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

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

}

}