Institute of Computer Technology
B. Tech Computer Science and Engineering
Subject: Object Oriented Programming (2CSE303)
MIDSEM - 1

PRACTICAL-EXAM

Practical Definition: -

A customer wants to spend his money for which following functions could be performed:

a) **Take the user input for total monthly income, monthly budget for luxury expenses.**
b) **Determine the total savings and find the percentage of savings from the total monthly income. If the savings percentage is greater than 90%, it should display the message 'Select your choice' -> Home, Décor, Clothing, Accessories. In case of Home apply discount of 25%, Décor apply discount of 20%, for Clothing and accessories, apply discount of 30%.**
c) **Once the choice is done display the actual total amount invoice generated based on the selection made.**

Note: The above program should be designed through inheritance.

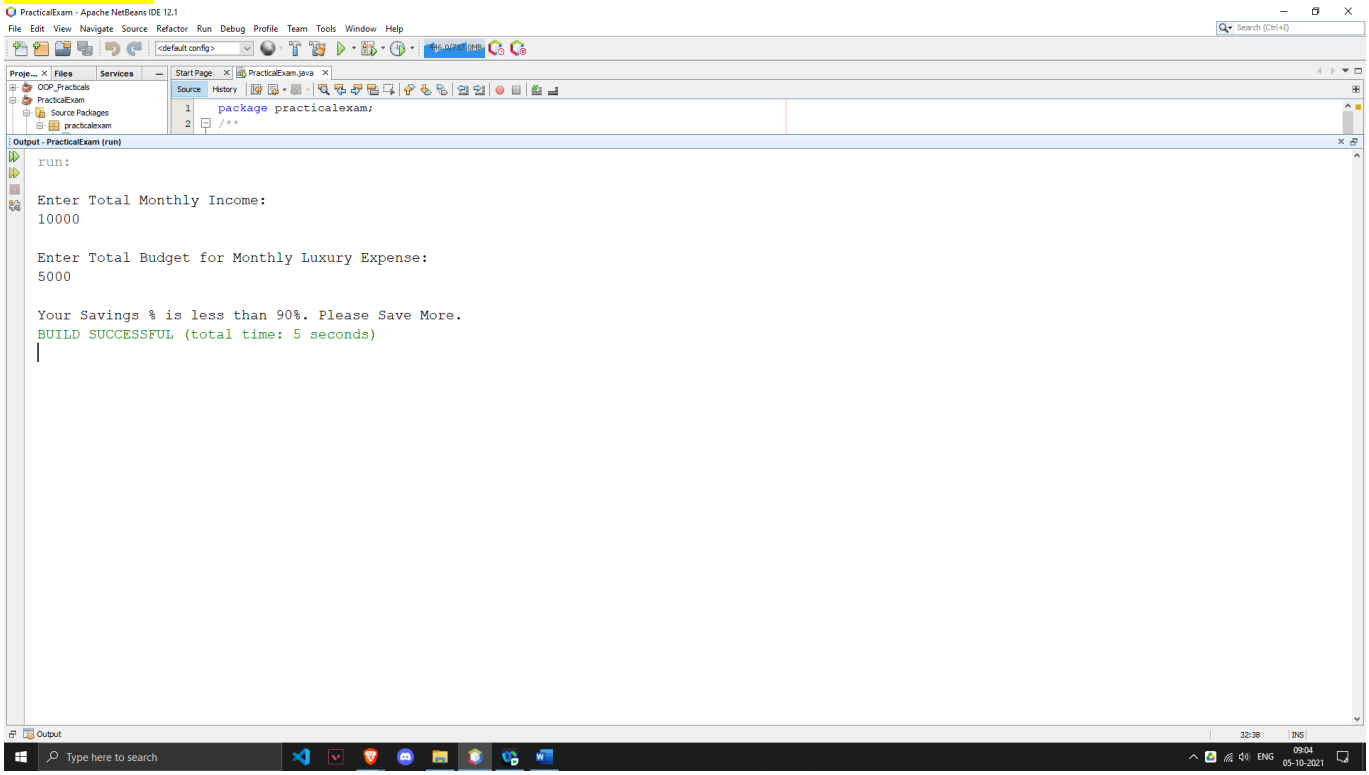
SOLUTION

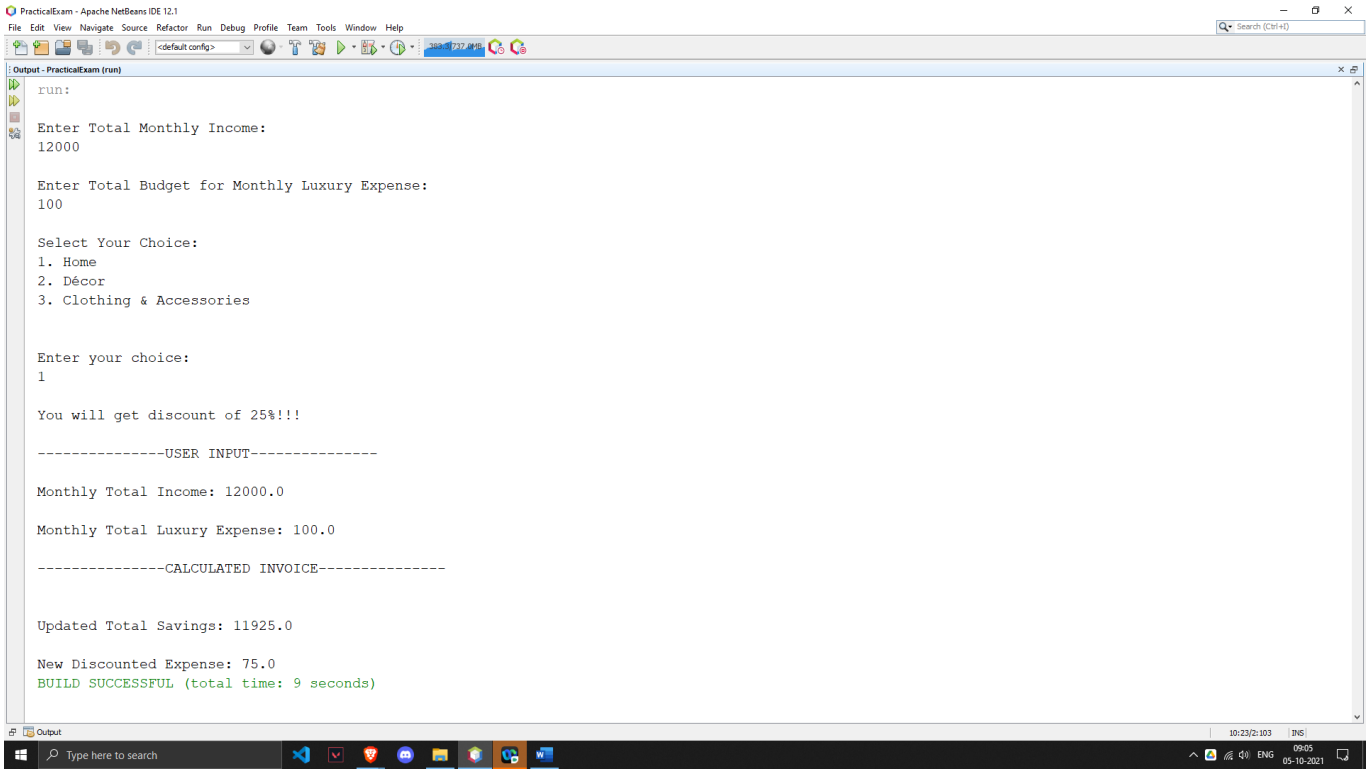
```
import java.util.*;
class ObjectiveA
{
   double m_Income, m_Expense;
   void GetData(){
      Scanner yash1=new Scanner(System.in);
      System.out.println("\nEnter Total Monthly Income: ");
      m_Income=yash1.nextDouble();
      System.out.println("\nEnter Total Budget for Monthly Luxury Expense: ");
      m_Expense=yash1.nextDouble();
   }
}

class ObjectiveB extends ObjectiveA
{
   double Savings, Percentage, new_Expense;
   int ch;
```

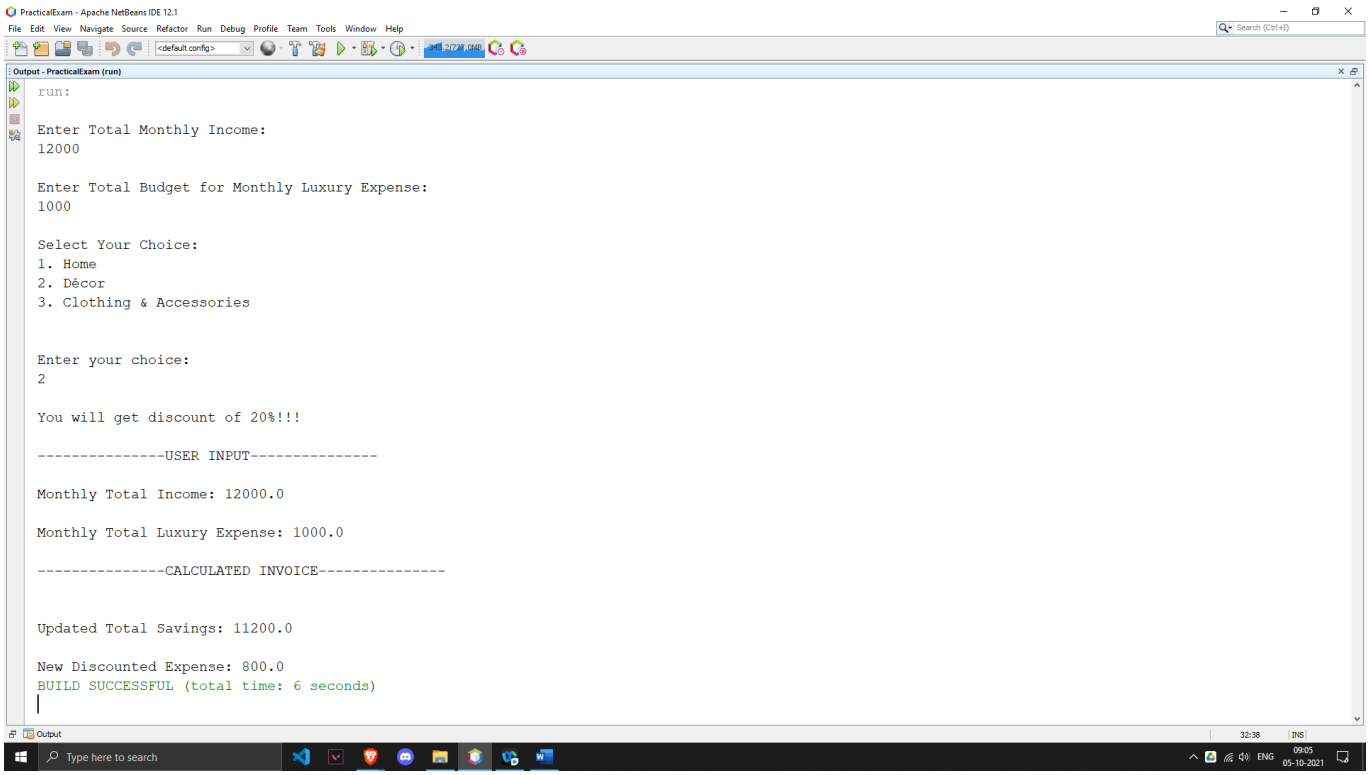
```
    void Calc()
    {
        Savings = m_Income - m_Expense;
        Percentage = (Savings/m_Income)*100;
        Scanner yash2=new Scanner(System.in);
        if(Percentage > 90)
        {
            System.out.println("\nSelect Your Choice: \n1. Home\n2. Décor\n3.
Clothing & Accessories");
            System.out.println("\n\nEnter your choice: ");
            ch=yash2.nextInt();

            switch(ch){
                case 1:
                    System.out.println("\nYou will get discount of 25%!!!");
                    new_Expense = m_Expense - (0.25*m_Expense);
                    break;
                case 2:
                    System.out.println("\nYou will get discount of 20%!!!");
                    new_Expense = m_Expense - (0.2*m_Expense);
                    break;
                case 3:
                    System.out.println("\nYou will get discount of 30%!!!");
                    new_Expense = m_Expense - (0.3*m_Expense);
                    break;
                default:
                    System.out.println("\nINVALID CHOICE !!!");
                    break;
            }
        }
        else
        {
            System.out.println("\nYour Savings % is less than 90%. Please Save
More.");
        }
    }
}
class ObjectiveC extends ObjectiveB
```

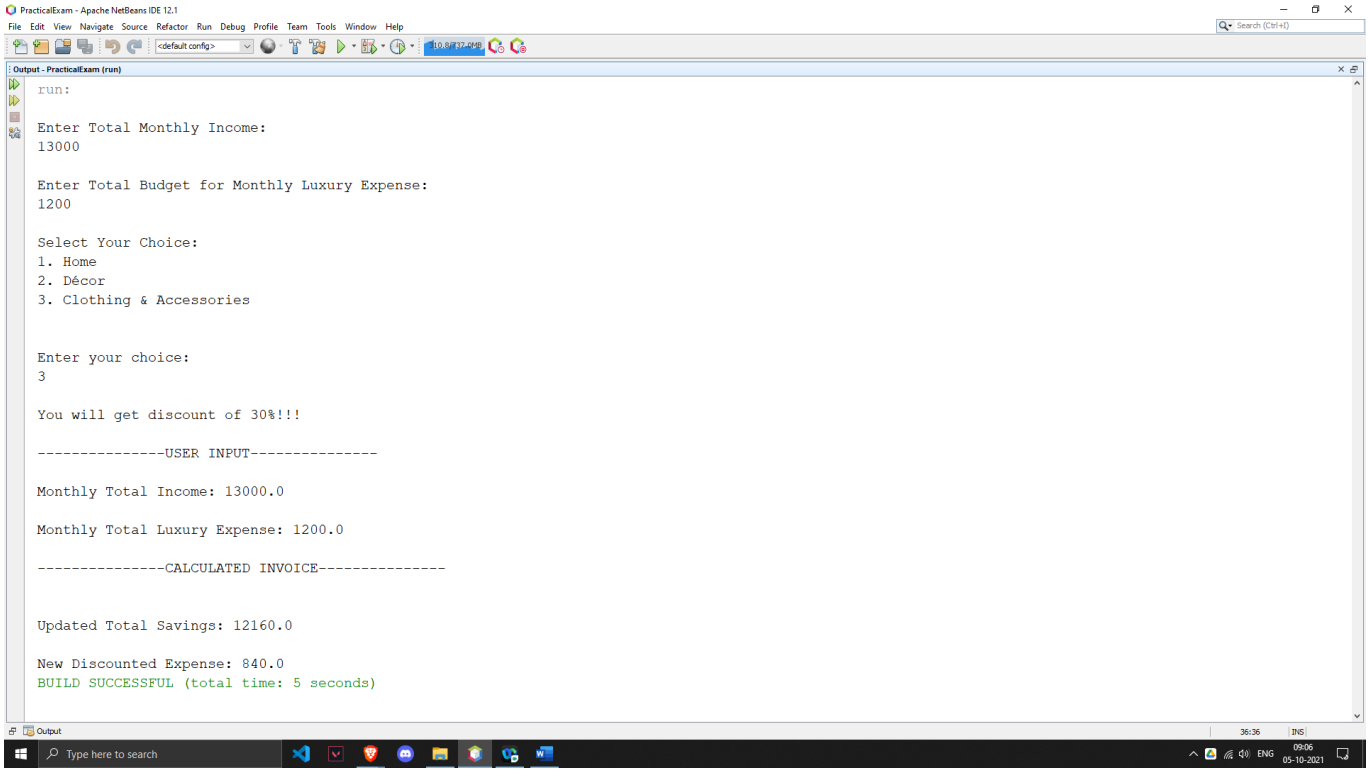
```
{
   void Display()
   {
      if(Percentage > 90)
      {
         System.out.println("\n---------------USER INPUT---------------");
         System.out.println("\nMonthly Total Income: "+m_Income);
         System.out.println("\nMonthly Total Luxury Expense: "+m_Expense);
         System.out.println("\n---------------CALCULATED INVOICE---------------");
         System.out.println("\n\nUpdated Total Savings: "+(m_Income-
new_Expense));
         System.out.println("\nNew Discounted Expense: "+new_Expense);
      }
   }
}
public class PracticalExam {

   public static void main(String[] args) {
      ObjectiveC obj = new ObjectiveC();
      obj.GetData();
      obj.Calc();
      obj.Display();
   }
}
```

OUTPUT


PracticalExam - Apache NetBeans IDE 12.1
package practicalexam;
/**
Output - PracticalExam (run)
run:
Enter Total Monthly Income:
10000
Enter Total Budget for Monthly Luxury Expense:
5000
Your Savings % is less than 90%. Please Save More.
BUILD SUCCESSFUL (total time: 5 seconds)


PracticalExam - Apache NetBeans IDE 12.1
Output - PracticalExam (run)
run:
Enter Total Monthly Income:
12000
Enter Total Budget for Monthly Luxury Expense:
100
Select Your Choice:
1. Home
2. Décor
3. Clothing & Accessories
Enter your choice:
1
You will get discount of 25%!!!
----------USER INPUT----------
Monthly Total Income: 12000.0
Monthly Total Luxury Expense: 100.0
----------CALCULATED INVOICE----------
Updated Total Savings: 11925.0
New Discounted Expense: 75.0
BUILD SUCCESSFUL (total time: 9 seconds)


PracticalExam - Apache NetBeans IDE 12.1
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Output - PracticalExam (run)
run:
Enter Total Monthly Income:
12000
Enter Total Budget for Monthly Luxury Expense:
1000
Select Your Choice:
1. Home
2. Décor
3. Clothing & Accessories
Enter your choice:
2
You will get discount of 20%!!!
----------USER INPUT----------
Monthly Total Income: 12000.0
Monthly Total Luxury Expense: 1000.0
----------CALCULATED INVOICE----------
Updated Total Savings: 11200.0
New Discounted Expense: 800.0
BUILD SUCCESSFUL (total time: 6 seconds)
Output
32:38
INS
Type here to search
ENG
09:05
05-10-2021


PracticalExam - Apache NetBeans IDE 12.1
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Output - PracticalExam (run)
run:
Enter Total Monthly Income:
13000
Enter Total Budget for Monthly Luxury Expense:
1200
Select Your Choice:
1. Home
2. Décor
3. Clothing & Accessories
Enter your choice:
3
You will get discount of 30%!!!
----------USER INPUT----------
Monthly Total Income: 13000.0
Monthly Total Luxury Expense: 1200.0
----------CALCULATED INVOICE----------
Updated Total Savings: 12160.0
New Discounted Expense: 840.0
BUILD SUCCESSFUL (total time: 5 seconds)
Output
36:36
INS
Type here to search
ENG
09:06
05-10-2021