HOME BUDGET SYSTEM

[CSE 310]

To

Arvind Sir

Topic:- HOME BUDGET SYSTEM

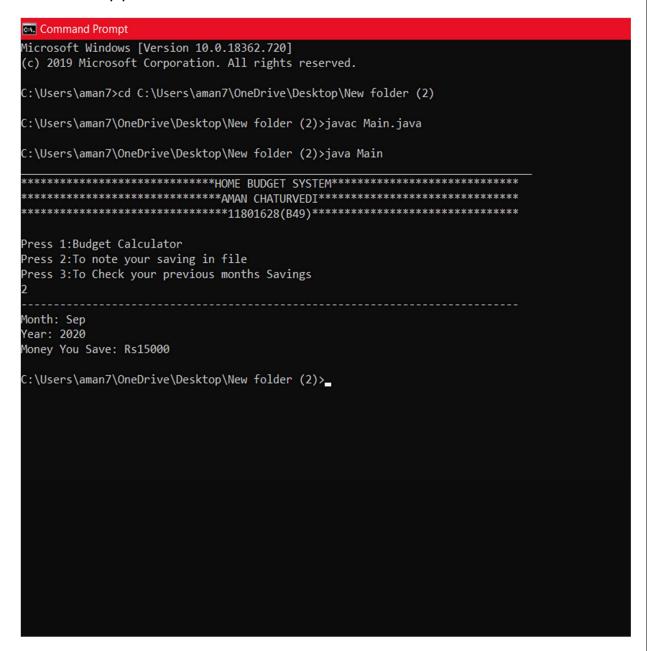| Name	Aman Chaturvedi
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Home Budget System

This program is design to calculate your Home Budget. It shows how much money you have coming in and how those funds are spent. It help you get the most out of your money. This program will help you to calculate where you spent your expenses. This program also give you option to save your savings in a file and you can also check your savings of previous months this will be beneficial for you to keep track of your saving and this will help you to make your future plans.
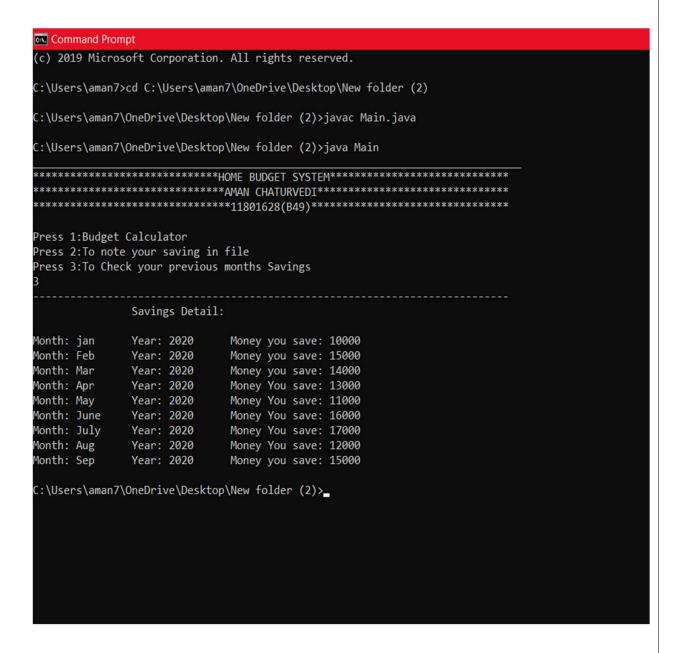
It contain three options :-

1. Budget Calculator: First it will calculate your Income than it ask you the amount you want to save this month and it will subtract that amount from your income and show you final amount of money you are free to spent. After that it will ask you where you spent your money it will give you so many options like Home rent, Personal Loan, clothing, Education etc. You need to fill the amount you spent on these things. At Last it will give you the final amount which were left after all of your expenses.

```
Command Prompt

C:\Users\aman7\OneDrive\Desktop\New folder (2)>javac Main.java

C:\Users\aman7\OneDrive\Desktop\New folder (2)>java Main

*****************************HOME BUDGET SYSTEM*****************************
*****************************AMAN CHATURVEDI*****************************
*****************************11801628(B49)*****************************

Press 1:Budget Calculator
Press 2:To note your saving in file
Press 3:To Check your previous months Savings
1
-------------------------------------------------------------------------
****************************Your INCOME****************************
Please enter Salary you receive this month: 50000
How much you want to spend from your savings: 0
Your income is Rs50000.0
PLease Enter amount you want to save this month:
15000
You are free to spend Rs35000.0 this month
-------------------------------------------------------------------------
*******************Let Calculate Where You Spend Your Money*******************
House rent: 7000
Automobile Expenses: 4000
Personal Loan: 3000
Educational expenses: 6000
Tax you pay: 4000
Utilities (electricity + gas + water): 3000
Mobile expenses: 500
Household repairs and maintenance500
Food: 1000
Life insurance: 1000
Travel: 500
You have spent Rs30500.0
The amount left after necessary expenses is Rs4500.0
-------------------------------------------------------------------------
****************************OTHER EXPENSES****************************
Entertainment: 500
Clothing & laundry: 2000
Any other activities: 1000
You have spent Rs3500.0 for other Expenses
Final amount after all your expenses is 1000.0

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```

2. To save your savings in a file: - It is design to save your record in a file. It will ask you three things:

- Month
- Year
- Money you save

3. Check Your previous month savings:- It will display all of your previous months savings. This will be very helpful to keep a track of your savings and it will also give idea you have to save in coming month and you can make plan according to that.

```
Command Prompt
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C:\Users\aman7>cd C:\Users\aman7\OneDrive\Desktop\New folder (2)

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*****************************HOME BUDGET SYSTEM****************************
*****************************AMAN CHATURVEDI******************************
*****************************11801628(B49)******************************

Press 1:Budget Calculator
Press 2:To note your saving in file
Press 3:To Check your previous months Savings
3
--------------------------------------------------------------------------
              Savings Detail:

Month: jan      Year: 2020      Money you save: 10000
Month: Feb      Year: 2020      Money you save: 15000
Month: Mar      Year: 2020      Money you save: 14000
Month: Apr      Year: 2020      Money You save: 13000
Month: May      Year: 2020      Money You save: 11000
Month: June     Year: 2020      Money You save: 16000
Month: July     Year: 2020      Money You save: 17000
Month: Aug      Year: 2020      Money You save: 12000
Month: Sep      Year: 2020      Money you save: 15000

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```

This project is design with Java language and it includes :-

- ✓ Abstract Classes
- ✓ Inheritance
- ✓ I/O Fundamentals
- ✓ Exceptional Handling

1. Abstract class:-

I created an abstract class **wel** that cannot be used to create objects and to access it is inherited from another class **aa** and **bb**. I also created abstract method **info** which can only only be used in an abstract class **wel** and it does not have a body. The body is provided by the subclass **aa** and **bb**.

2. Inheritance:-

I created a Superclass **one** which contain method **monthly income** and created Subclass **two** which inherit the features of class **one** and it contain method **Expenses**, **otherexpenses**, **write_in_file** and **read**.

3. I/O Fundamentals:-

Java IO provides the concept of streams which basically represent a continuous flow of data .I use an **OutputStream** to append a data in a file (myfile.txt) so you can keep record of your savings And use **InputStream** to read from a file (myfile.txt) so you can see your previous months saving .

4. Exceptional Handling:-

I use an exceptional handling in outputstream and inputstream and use a try block on writing and reading code of a file. If it will catch **FileNotFoundException e** than it print **File not found** and if it will catch **IOException ioe** than it will print **Exception while writing file** and finally will close a file.

Q-1 : Write a java program to implement "Home Budget Management". In which you have to include at least three from the given topics as per requirement of the program: Inheritance, Overriding Methods, Polymorphism, Abstract Classes, Nested Classes, Interfaces, Lambda Expressions, Exceptional Handling and I/O Fundamentals. Avoid copying the solutions from any student/website. Try to implement using the concept covered in the class. Solution must be unique for each student.

Code:-

```
import java.util.*;

import java.lang.*;

import java.io.*;

import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;

import java.io.FileNotFoundException;

import java.io.FileInputStream;

import java.io.InputStream;


abstract  class wel

{

abstract void info();

}

class aa extends wel

{

void info()
```

```java
        {

        System.out.println("***************************Your

INCOME***************************");

        }

}


class bb extends wel

{

void info()

        {

        System.out.println("*******************Let Calculate Where You

Spend Your Money*******************");       }

}

class one

{

   Scanner HB = new Scanner(System.in);

   double Budget,to_spend,save,budget_after_expenses;

   void monthly_income()

   {

     double  Salary,savings;

     System.out.print("Please enter Salary you receive this month: ");

     Salary = HB.nextDouble();

     System.out.print("How much you want to spend from your savings: ");

     savings = HB.nextDouble();
```

```java
        Budget = Salary+savings;

        System.out.println("Your income is Rs" + Budget);

            System.out.println("PLease Enter amount you want to save this month:
");

        save = HB.nextDouble();

        to_spend = Budget-save;

        System.out.println("You are free to spend Rs" + to_spend + " this month");

    }

}

class two extends one

{

    void Expenses()

    {

        double totalExpenses,  rent, auto, loan,  edu, tax, utility, mob, household,
food, life, travel;


        System.out.print("House rent: ");

        rent = HB.nextDouble();

        System.out.print("Automobile Expenses: ");

        auto = HB.nextDouble();

        System.out.print("Personal Loan: ");

        loan =HB.nextDouble();

            System.out.print("Educational expenses: ");

        edu = HB.nextDouble();
```

```java
        System.out.print("Tax you pay: ");

        tax = HB.nextDouble();

        System.out.print("Utilities (electricity + gas + water): ");

        utility = HB.nextDouble();

            System.out.print("Mobile expenses: ");

        mob = HB.nextDouble();

        System.out.print("Household repairs and maintenance");

        household = HB.nextDouble();

            System.out.print("Food: ");

        food = HB.nextDouble();

            System.out.print("Life insurance: ");

        life = HB.nextDouble();

            System.out.print("Travel: ");

        travel = HB.nextDouble();


        totalExpenses = rent + auto + loan +  edu + tax + utility + mob + household
+ food + life + travel;

        budget_after_expenses = to_spend-totalExpenses;

        System.out.println("You have spent Rs" + totalExpenses);

        System.out.println("The amount left after necessary expenses is Rs" +
budget_after_expenses);

    }

     void otherexpenses()

    {
```

```java
        double totalOtherexpenses, clothing, act, entertainment,budget_other;

        System.out.println("-------------_-------------------------------------------------------
---------");


    System.out.println("******************************OTHER
EXPENSES******************************");

    System.out.print("Entertainment: ");

    entertainment = HB.nextDouble();

    System.out.print("Clothing & laundry: ");

    clothing = HB.nextDouble();

        System.out.print("Any other activities: ");

    act = HB.nextDouble();

    totalOtherexpenses = act + clothing + entertainment;

    budget_other = budget_after_expenses - totalOtherexpenses;

    System.out.println("You have spent Rs" + totalOtherexpenses+ " for other
Expenses");

    System.out.println("Final amount after all your expenses is " +
budget_other );


        }
    void write_in_file()

    {

    File file = new File("C:/Users/aman7/OneDrive/Desktop/New folder (2)/my
file.txt");

    FileOutputStream fos = null;
```

```java
try {

  Scanner HB = new Scanner(System.in);

  String s,p,q,r;

  System.out.print("Month: ");

  p=HB.nextLine();

  System.out.print("Year: ");

  q=HB.nextLine();

  System.out.print("Money You Save: Rs");

  r=HB.nextLine();

    s=("\nMonth: "+p+"\tYear: "+q+"\tMoney you save: "+r);

   fos = new FileOutputStream(file, true);

   fos.write(s.getBytes());

}

catch (FileNotFoundException e) {

   System.out.println("File not found" + e);

}

catch (IOException ioe) {

   System.out.println("Exception while writing file " + ioe);

}

finally {

   try {

      if (fos != null) {

         fos.close();
```

```java
        }

      }

      catch (IOException ioe) {

        System.out.println("Error while closing stream: " + ioe);

      }

    }

    }

    void read()

    {

InputStream is = null;

    int i;

    char c;

    try {

      is = new FileInputStream("C:/Users/aman7/OneDrive/Desktop/New folder (2)/my file.txt");

      System.out.println("\t\tSavings Detail: ");

      while((i = is.read())!=-1) {

        c = (char)i;

        System.out.print(c);

      }

    } catch(Exception e) {

      e.printStackTrace();

    }

    }
```

```java
}
public class Main
{
    public static void main(String[] args)
    {   wel b;

        two g = new two();

      Scanner HB = new Scanner(System.in);

        System.out.println("_____
_____");

        System.out.println("***************************HOME BUDGET
SYSTEM**************************");

        System.out.println("***************************AMAN
CHATURVEDI***************************");

        System.out.println("***************************11801628(B4
9)***************************");

        System.out.println("\nPress 1:Budget Calculator\nPress 2:To note your
saving in file\nPress 3:To Check your previous months Savings");

        int c;

        c=HB.nextInt();


        switch(c)
        {
case 1:System.out.println("-------------------------------------------------------------------
--------");

                    b=new aa();
```

```java
                b.info();

            g.monthly_income();

                b=new bb();

                System.out.println("-----------------------------------------------------------------------------------");

                b.info();

                g.Expenses();

                g.otherexpenses();;

                break;


case 2:System.out.println("-----------------------------------------------------------------------------------");

                g.write_in_file();

                break;


case 3:System.out.println("-----------------------------------------------------------------------------------");

                g.read();

                break;



    }

  }
}
```

Result Screenshot:-

1. Budget Calculator:

2. To note your saving in a file:

```
Command Prompt
Microsoft Windows [Version 10.0.18362.720]
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****************************AMAN CHATURVEDI****************************
****************************11801628(B49)****************************

Press 1:Budget Calculator
Press 2:To note your saving in file
Press 3:To Check your previous months Savings
2
-------------------------------------------------------------------
Month: Sep
Year: 2020
Money You Save: Rs15000

C:\Users\aman7\OneDrive\Desktop\New folder (2)>
```

3. To check your savings: