

Assignment-1 A

Prashanth S

19MID0020

Question

Assessment 1A

Mellon share owner services maintain the details of the share holders.

- a) Maintain the personal details of the share holder.
- b) Manipulate the users to buy and sell the shares.
- c) Maintain the account balances after sell and buying the shares.
- d) Issue the dividends yearly once. Dividends means a bonus. E.g. 30% bonus means $\text{balance} = \text{balance} + (\text{balance} * 0.3)$

Write a Java program to implement the problem stated above using classes and objects in Java

Expected output:

Tran Id	Share holder name	Bank Acc No	Date	Share Sell Value	Shares buy Value	Dividend	Acc Bal

Melon Class

```
File Edit View Navigate Code Analyze Refactor Build Run Tools Git Window Help Assignment_1A - MellonServices.java
Assignment_1A src com company MellonServices
Main.java MellonServices.java
1 package com.company;
2
3 public class MellonServices {
4     int trans_id;
5     String name;
6     String date; // Date date
7     String account_number;
8     int balance_share; // To maintain balance shares after adding/deleting the share
9     int balance_amount; // To maintain balance amount after adding/deleting the share
10    int dividend;
11
12    MellonServices(int id,String name,String date,String acc_number,int b_share,int b_amount,int b_divident) {
13        this.trans_id = id;
14        this.name = name;
15        this.date = date;
16        this.account_number = acc_number;
17        this.balance_share = b_share;
18        this.balance_amount = b_amount;
19        this.divident = b_divident;
20    }
21
22    /* Consider the Price of 1 share --> Rs 20*/
23    public void Buy_share(int share) {
24        if (balance_amount >= (share * 10)) {
25            this.trans_id +=1;
26            this.balance_share = this.balance_share + share; /* balance share increases */
27            this.balance_amount = this.balance_amount - (share * 20); /* balance amount decreases */
28        }
29    }
30
31    /* Consider the Price of 1 share --> Rs 10*/
32    public void Sell_share(int share) {
33        if (balance_share >= share) {
34            this.trans_id +=1;
35            this.balance_share = this.balance_share - share; /* balance share decreases */
36            this.balance_amount = this.balance_amount + (share * 10); /* balance amount increases */
37        }
38    }
39
40    public void Dividend() {
41        this.trans_id +=1;
42        this.balance_amount = this.balance_amount + (this.balance_amount * (this.divident/100));
43    }
44
45    public void Display(){
46        System.out.println("\nTransaction_ID      "
47            + "Name      "
48            + "Bank_acc      "
49            + "Date      "
50            + "Share_buy_value      "
51            + "Share_sell_value      "
52            + "Dividend      "
53            + "Account_balance      "
54        );
55
56        System.out.println("-----" +
57            "-----");
58
59        System.out.println(this.trans_id + "
60            + this.name + "
61            + this.account_number + "
62            + this.date + "
63            + "20" + "
64            + "10" + "
65            + this.divident + "
66            + this.balance_amount);
67    }
68 }
```

Main method

```
File Edit View Navigate Code Analyze Refactor Build Run Tools Git Window Help Assignment_1A - Main.java
Assignment_1A > src > com > company > Main > main
Main.java MellonServices.java
1 package com.company;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         MellonServices obj1 = new MellonServices(id: 1, name: "Prashanth", date: "2020-02-08", acc_number: "2ABC123", b_share: 25, b_am
7         MellonServices obj2 = new MellonServices(id: 2, name: "William", date: "2020-11-23", acc_number: "9PQR456", b_share: 30, b_amou
8         MellonServices obj3 = new MellonServices(id: 3, name: "Monica", date: "2019-04-29", acc_number: "8XYZ789", b_share: 40, b_amo
9
10        System.out.println("          #####          Before transactions          #####");
11        obj1.Display();
12        obj2.Display();
13        obj3.Display();
14
15        obj1.Buy_share(30); // Prashanth wants to buy 10 shares
16        obj1.Buy_share(20); // William wants to buy 30 shares
17        obj1.Buy_share(10); // Monica wants to buy 40 shares
18
19        obj1.Sell_share(5); // Prashanth wants to sell 5 shares
20        obj2.Sell_share(10); // William wants to sell 10 shares
21        obj3.Sell_share(15); // Monica wants to sell 15 shares
22
23        obj1.Dividend(); // Prashanth wants to give dividend as 5%
24        obj1.Dividend(); // William wants to give dividend as 10%
25        obj1.Dividend(); // Monica wants to give dividend as 15%
26
27        System.out.println();
28        System.out.println("          #####          After transactions          #####");
29        obj1.Display();
30        obj2.Display();
31        obj3.Display();
32    }
```

Output

```
"C:\Program Files\Amazon Corretto\jdk15.0.2_7\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edi
#####          Before transactions          #####
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
1              Prashanth  2ABC123   2020-02-08   20              10              5         1000
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
2              William   9PQR456   2020-11-23   20              10              10        1500
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
3              Monica    8XYZ789   2019-04-29   20              10              15        2000
#####          After transactions          #####
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
7              Prashanth  2ABC123   2020-02-08   20              10              5         50
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
3              William   9PQR456   2020-11-23   20              10              10        1600
Transaction_ID  Name      Bank_acc  Date      Share_buy_value  Share_sell_value  Dividend  Account
-----
4              Monica    8XYZ789   2019-04-29   20              10              15        2150
Process finished with exit code 0
```

Melon Class

```
package com.company;

public class MellonServices {
    int trans_id;
    String name;
    String date;           // Date date
    String account_number;
    int balance_share;    // To maintain balance shares after
    adding/deleting the share
    int balance_amount;  // To maintain balance amount after
    adding/deleting the share
    int dividend;

    MellonServices(int id,String name,String date,String
    acc_number,int b_share,int b_amount,int b_divident) {
        this.trans_id = id;
        this.name = name;
        this.date = date;
        this.account_number = acc_number;
        this.balance_share = b_share;
        this.balance_amount = b_amount;
        this.divident = b_divident;
    }

    /* Consider the Price of 1 share --> Rs 20*/
    public void Buy_share(int share) {
        if (balance_amount >= (share * 10)) {
            this.trans_id +=1;
            this.balance_share = this.balance_share + share;
        }
        /* balance share increases */
        this.balance_amount = this.balance_amount - (share
        * 20);    /* balance amount decreases */
    }

    /* Consider the Price of 1 share --> Rs 10*/
    public void Sell_share(int share) {
        if (balance_share >= share) {
            this.trans_id +=1;
            this.balance_share = this.balance_share - share;
        }
        /* balance share decreases */
        this.balance_amount = this.balance_amount + (share
        * 10);    /* balance amount increases */
    }

    public void Dividend() {
        this.trans_id +=1;
        this.balance_amount = this.balance_amount +
```

```

        (this.balance_amount * (this.divident/100));
    }

    public void Display(){
        System.out.println("\nTransaction_ID      "
            +"Name      "
            +"Bank_acc      "
            +"Date      "
            +"Share_buy_value      "
            +"Share_sell_value      "
            +"Dividend      "
            +"Account_balance      "

        );

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

        System.out.println(this.trans_id + "
            "
            + this.name + "      "
            + this.account_number + "      "
            + this.date + "      "
            + "20" + "      "
            + "10" + "      "
            + this.divident + "      "
            + this.balance_amount) ;
    }
}

```

Main method

```

package com.company;

public class Main {

    public static void main(String[] args) {
        MellonServices obj1 = new
MellonServices(1,"Prashanth", "2020-02-08", "2ABC123", 25,
1000,5);
        MellonServices obj2 = new MellonServices(2,"William",
"2020-11-23", "9PQR456", 30, 1500,10);
        MellonServices obj3 = new MellonServices(3,"Monica",
"2019-04-29", "8XYZ789", 40, 2000,15);

        System.out.println("      #####
Before transactions      #####");
        obj1.Display();
        obj2.Display();
        obj3.Display();
    }
}

```

```

        obj1.Buy_share(30); // Prashanth wants to buy 10
shares
        obj1.Buy_share(20); // William wants to buy 30 shares
        obj1.Buy_share(10); // Monica wants to buy 40 shares

        obj1.Sell_share(5); // Prashanth wants to sell 5
shares
        obj2.Sell_share(10); // William wants to sell 10
shares
        obj3.Sell_share(15); // Monica wants to sell 15 shares

        obj1.Dividend(); // Prashanth wants to give
divident as 5%
        obj1.Dividend(); // William wants to give
divident as 10%
        obj1.Dividend(); // Monica wants to give
divident as 15%

        System.out.println();
        System.out.println("#####
After transactions #####");
        obj1.Display();
        obj2.Display();
        obj3.Display();
    }
}

```

Output

```

"C:\Program Files\Amazon Corretto\jdk15.0.2_7\bin\java.exe" "-
javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community
Edition 2020.3.2\lib\idea_rt.jar=50717:C:\Program
Files\JetBrains\IntelliJ IDEA Community Edition 2020.3.2\bin"
-Dfile.encoding=UTF-8 -classpath "C:\WinterSemester-
2021\CSI2008 Programming in JAVA\JAVA lab
practice\Assignment_1A\out\production\Assignment_1A"
com.company.Main

```

```

##### Before transactions
#####

Transaction_ID      Name      Bank_acc      Date
Share_buy_value      Share_sell_value      Dividend
Account_balance
-----
-----
-----
1      Prashanth      2ABC123      2020-02-08
20      10      5      1000

```

Transaction_ID	Name	Bank_acc	Date
Share_buy_value	Share_sell_value		Dividend
Account_balance			
2	William	9PQR456	2020-11-23
20	10	10	1500

Transaction_ID	Name	Bank_acc	Date
Share_buy_value	Share_sell_value		Dividend
Account_balance			
3	Monica	8XYZ789	2019-04-29
20	10	15	2000

After transactions

Transaction_ID	Name	Bank_acc	Date
Share_buy_value	Share_sell_value		Dividend
Account_balance			
7	Prashanth	2ABC123	2020-02-08
20	10	5	50

Transaction_ID	Name	Bank_acc	Date
Share_buy_value	Share_sell_value		Dividend
Account_balance			
3	William	9PQR456	2020-11-23
20	10	10	1600

Transaction_ID	Name	Bank_acc	Date
Share_buy_value	Share_sell_value		Dividend
Account_balance			
4	Monica	8XYZ789	2019-04-29
20	10	15	2150

Process finished with exit code 0

Github : [https://github.com/PrashanthSingaravelan/WinterSemester-2021/tree/main/CSI2008%20Programming%20in%20JAVA/JAVA%20lab%20practice/Assignment 1A 1B](https://github.com/PrashanthSingaravelan/WinterSemester-2021/tree/main/CSI2008%20Programming%20in%20JAVA/JAVA%20lab%20practice/Assignment%201A%201B)