Problem Statement: Develop a Java program to simulate the most common operations of an ATM.

Assumptions

1. There is no persistence (file/SQL) required.
2. Only currencies of denominations: 10$, 20$, 50$ are accepted by the ATM.
3. No concurrent operations performed, however you can make the code thread safe if you wish to.
4. There is no account validation required but transactions performed have required validations as per situation/user input.

Requirements

1. The program should support Cash deposit, Cash Withdrawal, Display available balance and Show mini statement (as per attached sample run).
2. User to select options from a menu.
3. Cash out is based on the availability of highest available denomination. E.g.
   - 3.1 If machine has 50$, 20$, 20$, 20, 10 and user enters 60$ to withdraw, currency dispensed will be 50$ and 10$.
   - 3.2 If machine has 20$, 20$, $20, 10, 10$, 10$ and user enters 60$ to withdraw, currency dispensed will be 20$, 20$, 20$.
   - 3.3 If machine has 20$, 20$, $10, 10, 10$, and user enters 60$ to withdraw, currency dispensed will be 20$, 20$, 10$.
4. Display appropriate validation/error messages.

Expectation

1. Working code as an importable project in Eclipse or IntelliJ.
2. Code as per object oriented design principals.
3. Unit tests (Junit)

Following are some sample output of the ATM simulator. Note User input is marked in bold

Program Run#1

```
1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:1
Enter ccy to deposit terminated by. e.g. 10 20 50 .
20 10 50 20 .
Accepted:20
Accepted:10
Accepted:50
Accepted:20

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
```

```
5. Exit
Select an option:3

Available balance:100.0

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:4
---------------------------------------------------------------------
Date Time        Transaction      Amount     Closing Balance
---------------------------------------------------------------------
01/12/2015 18:07:24   Credit     100.0      100.0
---------------------------------------------------------------------

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:5
Have a good day
```

Program Run#2

```
1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:1
Enter ccy to deposit terminated by. e.g. 10 20 50 .
30 40 20 10 .
Invalid denomination:30$
Invalid denomination:40$
Accepted:20
Accepted:10

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:3

Available balance:30.0

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:2
Enter amount to withdraw
10
```

```
Dispensing 10$

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:4
---------------------------------------------------------------------
Date Time        Transaction     Amount     Closing Balance
---------------------------------------------------------------------
01/12/2015 18:09:05   Credit     30.0       30.0
01/12/2015 18:09:22   Debit      10.0       20.0
---------------------------------------------------------------------

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:5
Have a good day
```

Program Run#2

```
1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:1
Enter ccy to deposit terminated by. e.g. 10 20 50 .
20 20 10 50 20 .
Accepted:20
Accepted:20
Accepted:10
Accepted:50
Accepted:20

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:2
Enter amount to withdraw
80
Dispensing 50$
Dispensing 20$
Dispensing 10$

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:3
```

```
Available balance:40.0

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:4
---------------------------------------------------------------------
Date Time        Transaction      Amount     Closing Balance
---------------------------------------------------------------------
01/12/2015 18:11:55   Credit           120.0      120.0
01/12/2015 18:12:04   Debit            80.0       40.0
---------------------------------------------------------------------

1. Deposit
2. Withdraw
3. Display Balance
4. Mini Statement
5. Exit
Select an option:
```