

BSM-262

OBJECT-ORIENTED PROG – II

HOMEWORK-1

TEST REPORTS

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## This is test of Asset Class

The code creates an instance of the **Asset** class with the name "THA" and a cost basis of 50.0. It then retrieves the name using the **getName()** method, which returns "THA". It sets the name to "THA" using the **setName()** method and retrieves the name again using the **getName()** method, which again returns "THA".

It then sets the description using the **setDescription()** method and retrieves it using the **getDescription()** method, which returns the description. The cost basis is retrieved using the **getCostBasis()** method, which returns 50.0, and is set again to 50.0 using the **setCostBasis()** method.

The current price is set to 150.0 using the **setCurrentPrice()** method and retrieved using the **getCurrentPrice()** method, which returns 150.0. The capital gains are set to 50.0 using the **setCapitalGains()** method and retrieved using the **getCapitalGains()** method, which returns 50.0.

```
Asset asset = new Asset("THA", 50.0)
```

```
> asset.getName()
```

```
"THA"
```

```
> asset.setName("THA")
```

```
> asset.getName()
```

```
"THA"
```

```
> asset.setDescription("This is a special asset for your company.")
```

```
> asset.getDescription()
```

```
"This is a special asset for your company."
```

```
> asset.getCostBasis()
```

```
50.0
```

```
> asset.setCostBasis(50.0)
```

```
> asset.getCostBasis()
```

```
50.0
```

```
> asset.setCurrentPrice(150.0)
```

```
> asset.getCurrentPrice()
```

```
150.0
```

```
> asset.setCapitalGains(50.0)
```

```
> asset.getCapitalGains()
```

```
50.0
```

```
>
```

```
> Asset asset = new Asset("THA", 50.0)
> asset.getName()
"THA"
> asset.setName("THA")
> asset.getName()
"THA"
> asset.setDescription("This is a special asset for your company.")
> asset.getDescription()
"This is a special asset for your company."
> asset.getCostBasis()
50.0
> asset.setCostBasis(50.0)
> asset.getCostBasis()
50.0
> asset.setCurrentPrice(150.0)
> asset.getCurrentPrice()
150.0
> asset.setCapitalGains(50.0)
> asset.getCapitalGains()
50.0
>
```

## This is test of Bond Class

Create a new instance of Bond class, named bond, with the arguments "THABOND" for bond name, 50.0 for principal, and 0.3 for interest rate. Get the principal of the bond using the `getPrincipal()` method, which should return 0.0 since it was not set explicitly. Get the number of bonds owned by the investor using the `getNumberOfBondsOwned()` method, which should return 0 since it was not set explicitly. Set the number of bonds owned by the investor to 50 using the `setNumberOfBondsOwned()` method. Get the interest rate of the bond using the `getInterestRate()` method, which should return 0.3 since it was set when creating the bond instance. Set the interest rate of the bond to 0.4 using the `setInterestRate()` method. Get the interest payment of the bond for the principal amount using the `payInterest()` method, which should return 0.0 since no interest payments were made yet. Buy a bond using the `buyBond()` method, which increases the cost basis of the bond by the current price (principal), adds 1 to the number of bonds owned, and returns the current price. In this case, it returns 50.0, the principal amount. Buy another bond using the `buyBond()` method, which performs the same actions as the previous step, and returns the current price (principal) again. Get the number of bonds owned by the investor using the `getNumberOfBondsOwned()` method, which should return 52 since two bonds were bought in the previous steps. Sell a bond using the `sellBond()` method, which decreases the cost basis of the bond by the average cost per bond, sets the capital gains to the difference between the current price and the average cost per bond, subtracts 1 from the number of bonds owned, and returns the current price. In this case, it returns 50.0, the principal amount.

```
> Bond bond = new Bond("THABOND", 50.0, 0.3)
```

```
> bond.getPrincipal()
```

```
0.0
```

```
> bond.getNumberOfBondsOwned()
```

0

> bond.setNumberOfBondsOwned(50)

> bond.getNumberOfBondsOwned()

50

> bond.getInterestRate()

0.3

> bond.setInterestRate(0.4)

> bond.getInterestRate()

0.4

> bond.payInterest()

0.0

> bond.buyBond()

50.0

> bond.buyBond()

50.0

> bond.getNumberOfBondsOwned()

52

> bond.buyBond()

50.0

> bond.getNumberOfBondsOwned()

53

> bond.sellBond()

50.0

> bond.sellBond()

50.0

> bond.getNumberOfBondsOwned()

51

```

> Bond bond = new Bond("THABOND", 50.0, 0.3)
> bond.getPrincipal()
0.0
> bond.getNumberOfBondsOwned()
0
> bond.setNumberOfBondsOwned(50)
> bond.getNumberOfBondsOwned()
50
> bond.getInterestRate()
0.3
> bond.setInterestRate(0.4)
> bond.getInterestRate()
0.4
> bond.payInterest()
0.0
> bond.buyBond()
50.0
> bond.buyBond()
50.0
> bond.getNumberOfBondsOwned()
52
> bond.buyBond()
50.0
> bond.getNumberOfBondsOwned()
53
> bond.sellBond()
50.0
> bond.sellBond()
50.0
> bond.getNumberOfBondsOwned()
51
>

```

---

## This is test of Equity Class

Creating a new Equity object with name "THA", symbol 'T', and current price of 500.0

Getting the number of shares for the Equity object, which is currently 0.0

Setting the number of shares for the Equity object to 50Getting the symbol for the Equity object, which is 'T'

```

> Equity equity = new Equity("THA", 'T', 500.0)
> equity.getNumberShares()
0.0
> equity.setNumberShares(50)
> equity.getNumberShares()
50.0

```

```
> equity.getSymbol()
```

```
'T'
```

```
>
```

```
> Equity equity = new Equity("THA", 'T', 500.0)
> equity.getNumberShares()
0.0
> equity.setNumberShares(50)
> equity.getNumberShares()
50.0
> equity.getSymbol()
'T'
> |
```

This is test of MutualFund class

```
> MutualFund m = new MutualFund("Taha", 500.0, 't')
```

```
> m.getLoad()
```

```
0.0
```

```
> m.setLoad(5)
```

```
> m.getLoad()
```

```
5.0
```

```
> m.buy(50)
```

```
50.0
```

```
> m.getLoad()
```

```
5.0
```

```
> m.getCostBasis()
```

```
50.0
```

```
> m.buy(50)
```

```
50.0
```

```
> m.getCostBasis()
```

```
100.0
```

```
> m.sell(25)
```

```
25.0
```

```
> m.getCostBasis()
135.7142857142857
> m.sell(50)
```

```
50.0
> m.getCurrentPrice()
500.0
> m.sell(500)
0.0
> m.getCurrentPrice()
500.0
> m.getCapitalGains()
-299.9999999999999
```

```
> MutualFund m = new MutualFund("Taha", 500.0, 't')
> m.getLoad()
0.0
> m.setLoad(5)
> m.getLoad()
5.0
> m.buy(50)
50.0
> m.getLoad()
5.0
> m.getCostBasis()
50.0
> m.buy(50)
50.0
> m.getCostBasis()
100.0
> m.sell(25)
25.0
> m.getCostBasis()
135.7142857142857
> m.sell(50)
```

This is test of Customer Class

```
> Bond tahaB = new Bond("THY", 500.0, 0.3)
> MutualFund tahaM = new MutualFund("THY", 500.0, 't')
> Customer taha = new Customer(tahaB, tahaM, "Taha", "Uzun", 5000.0)
> taha.getFirstName()
"Taha"
```

```
> taha.setFirstName("Ahmet")
> taha.getFirstName()
"Ahmet"
> taha.setFirstName("Taha")
> taha.getLastName()
"Uzun"
> taha.setLastName("Kısa")
> taha.getLastName()
"Kısa"
> taha.setLastName("Uzun")
> taha.getLastName()
"Uzun"
> taha.getTotalCash()
5000.0
> taha.setTotalCash(300)
> taha.getBond()
Bond@469a72d8
> taha.getMutualFund()
MutualFund@2be04292
> taha.currentValue()
0.0
> taha.getCapitalGains()
0.0
> taha.sellBond()
> taha.sellBond()
> taha.buyBond()
true
> taha.sellBond()
> taha.buyBond()
true
> taha.withdrawMutualFund(500)
```



```
> taha.getTotalCash()
```

```
1300.0
```

```
> taha.buyMutualFund(500)
```

```
true
```

```
> taha.getTotalCash()
```

```
800.0
```

```
> Bond tahaB = new Bond("THY", 500.0, 0.3)
> MutualFund tahaM = new MutualFund("THY", 500.0, 't')
> Customer taha = new Customer(tahaB, tahaM, "Taha", "Uzun", 5000.0)
> taha.getFirstName()
"Taha"
> taha.setFirstName("Ahmet")
> taha.getFirstName()
"Ahmet"
> taha.setFirstName("Taha")
> taha.getLastName()
"Uzun"
> taha.setLastName("Kısa")
> taha.getLastName()
"Kısa"
> taha.setLastName("Uzun")
> taha.getLastName()
"Uzun"
> taha.getTotalCash()
5000.0
> taha.setTotalCash(300)
> taha.getBond()
Bond@469a72d8
> taha.getMutualFund()
MutualFund@2be04292
> taha.currentValue()
0.0
> taha.getCapitalGains()
0.0
> taha.sellBond()
```

---

```
> taha.sellBond()
> taha.sellBond()
> taha.buyBond()
true
> taha.sellBond()
> taha.buyBond()
true
> taha.withdrawMutualFund(500)
> taha.getTotalCash()
1300.0
> taha.buyMutualFund(500)
true
> taha.getTotalCash()
800.0
>
```