

## Programming Assignment Unit 4

Godfrey Ouma

University of the People

CS 1102: Programming 1

Ruth Alabi

December 14, 2023

```

package cs;
import java.util.ArrayList;
public class StockAnalysis {
    //Determine average stock
    public static float AveragePrice(float[] StockPrices) {
        float sum = 0;
        for (float price : StockPrices) {
            sum+=price;
        }
        return sum/StockPrices.length;
    }
    //Determine maximum Stock
    public static float MaximumPrice(float[] StockPrices) {
        float MaxPrice = StockPrices[0];
        for (float price:StockPrices) {
            if (price>MaxPrice) {
                MaxPrice = price;
            }
        }
        return MaxPrice;
    }
    //Occurrence count of a particular price
    public static int CountOccurrences(float[] StockPrices, float targetPrice) {
        int count = 0;
        for (float price: StockPrices) {
            if (price == targetPrice) {
                count++;
            }
        }
        return count;
    }
    // Cummulative sum of stock prices using ArrayList
    public static ArrayList<Float>CalculateCumulativeSum(ArrayList<Float> StockPrices){
        ArrayList<Float>CumulativeSum = new ArrayList<>();
        float sum = 0;
        for (float price : StockPrices) {
            sum+= price;
            CumulativeSum.add(sum);
        }
        return CumulativeSum;
    }
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        //Array of stock prices
        float[]PriceArray = {25.0f, 30.5f, 15.0f, 23.5f, 45.0f, 19.5f,
32.0f, 34.0f, 12.5f, 56.0f};

        //ArrayList of stock prices
        ArrayList<Float>PriceList = new ArrayList<>();
    }
}

```

```
    PriceList.add(25.5f);
    PriceList.add(30.5f);
    PriceList.add(15.0f);
    PriceList.add(23.5f);
    PriceList.add(45.0f);
    PriceList.add(19.5f);
    PriceList.add(32.0f);
    PriceList.add(34.0f);
    PriceList.add(12.5f);
    PriceList.add(56.0f);

    //Average stock
    float averagePrice = AveragePrice(PriceArray);
    System.out.println("Average Price of Stock: " +averagePrice);

    //Maximum Stock Price
    float maximum_Price = MaximumPrice(PriceArray);
    System.out.println("Maximum Stock Price: " +maximum_Price);

    //Find occurence count of a specific price
    float targetPrice = 19.5f;
    int occurences = CountOccurrences(PriceArray, targetPrice);
    System.out.println("Occurences of " + targetPrice + ": " +
occurences);

    //Cumulative sum of stock prices
    ArrayList<Float>CumulativeSum = CalculateCumulativeSum(PriceList);
    System.out.println("Cumulative sum of stock prices: " +
CumulativeSum);

}

}
```

Console

Average Price of Stock: 29.3

Maximum Stock Price: 56.0

Occurrences of 19.5: 1

Cumulative sum of stock prices: [25.5, 56.0, 71.0, 94.5, 139.5, 159.0, 191.0, 225.0, 237.5, 293.5]