Exe_1_TheInvestor

```java
//Dalya William & Guy Rahamim
//Assignment 1
import java.util.Scanner;
public class Exe_1_TheInvestor
    {
        public static void main(String[] args)
        {
            //initializing variables.
            Scanner input = new Scanner(System.in);
            float oldPrice, newPrice;

            //ask the user for the old stock price.
            System.out.println("Please enter the old stock price: ");
            oldPrice=input.nextFloat();

            //ask the user for the new stock price.
            System.out.println("Please enter the new stock price: ");
            newPrice=input.nextFloat();

            //if new price is bigger or equal to the old price
            if (newPrice >= oldPrice)
            {
                    //print BUY and the difference of new from old.
                    System.out.println( "BUY!");
                    System.out.println("the price difference is :" +
(newPrice-oldPrice));
            }
            else //if not
               {
                    //print SELL and the difference of old from new.
                    System.out.println("SELL!");
                    System.out.println("the price difference is: " +
(oldPrice-newPrice));
               }
            input.close();
        }
    }
```

```
Please enter the old stock price:
93
Please enter the new stock price:
15
SELL!
the price difference is: 78.0
r
```

```
Please enter the old stock price:
15.3
Please enter the new stock price:
95
BUY!
the price difference is :79.7
```

Exe_2_OpeningHours

```java
//Dalya William & Guy Rahamim
//Assignment 2
import java.util.Scanner;
public class Exe2_OpeningHours
        {
                public static void main(String[] args)
                {
                        //initializing variables.
                        Scanner input = new Scanner (System.in);
                        int day=0, visitHour, monday=2,
                                    openingTime=10, closingTime=13;

                        //taking the day of the users visit to the store
                        System.out.println("Please enter the day of your visit: ");
                        day = input.nextInt();

                        //if its not monday, print "we're closed!"
                        if (day!=monday)
                                { System.out.println("Sorry, we're closed!"); }

                        else //but if it is monday:
                                {
                                //take the users time of arrival.
                                System.out.println("Please enter the time of your visit: ");
                                visitHour = input.nextInt();

                                //if the visit hour is when the shop is open
                                if (openingTime<=visitHour && visitHour <= closingTime)
                                        { System.out.println("Come in, we're open!"); }
                                else {System.out.println("Sorry, we're closed!");}
                                }
                        input.close();
                        }
        }
```

```
Please enter the day of your visit:
3
Sorry, we're closed!
```

```
Please enter the day of your visit:
2
Please enter the time of your visit:
15
Sorry, we're closed!
```

```
Please enter the day of your visit:
2
Please enter the time of your visit:
12
Come in, we're open!
```

Exe_3_CheckForJava

```java
//Dalya William & Guy Rahamim
//Assignment 3
import java.util.Scanner;
public class Exe3_CheckForJAVA
    {
            public static void main(String[] args)
            {
                //initializing variables
                Scanner input = new Scanner(System.in);
                char checker;

                //take a  single character from the user.
                System.out.println("Please enter a letter:");
                checker=input.next().charAt(0);


                //checks if the letter is either A, J or V and prints "Valid".
                switch (checker)
                {
                    case 'A':

                    case 'J':

                    case 'V':
                            System.out.println("Valid");
                            break;

                            //if none of the above, print "Invalid".
                            default:
                                    System.out.println("Invalid input!");

                }
            input.close();
            }
    }
```

```
Please enter a letter:
a
Invalid input!
```

```
Please enter a letter:
A
Valid
```

Exe_4_Find7AndCountEven

```java
//Dalya William & Guy Rahamim
//Assignment 4
import java.util.Scanner;
public class Exe4_Find7AndCountEven
    {
            public static void main(String[] args)
            {
                //initializing variables.
                Scanner input = new Scanner (System.in);
                int num, evenCounter=0;

                do //while loop's body.
                {
                    //taking a number from the user and checks if its even.
                    //if it is, increase evenCounter by 1.
                    //this is executed continuously (while loop) until 7 is
entered.

                    System.out.println("Please enter a number:");
                    num=input.nextInt();
                    if (num%2==0){ evenCounter++; }
                }
                while (num!=7); //while loop condition.

                //print evenCounter.
                System.out.println("Number of even numbers entered: " +
evenCounter);

                    input.close();
            }
}
```

```
Please enter a number:
3
Please enter a number:
5
7Please enter a number:

Number of even numbers entered: 0
```

```
Please enter a number:
2
Please enter a number:
2
Please enter a number:
5
Please enter a number:
6
Please enter a number:
7
Number of even numbers entered: 3
```

Exe_5_WhatCharAmI

```java
//Dalya William & Guy Rahamim
//Assignment 5
import java.util.Scanner;
public class Exe_5_WhatCharAmI
        {
                public static void main(String[] args)
                {
                        //initializing variables
                        Scanner input= new Scanner (System.in);
                        char userChar;
                        final char  DIGIT_MIN_LIMIT='0',
                                            DIGIT_MAX_LIMIT='9',
                                            LOWER_CASE_MIN_LIMIT='a',
                                            LOWER_CASE_MAX_LIMIT='z',
                                            UPPER_CASE_MIN_LIMIT='A',
                                            UPPER_CASE_MAX_LIMIT='Z';

                        //asking the user to input a single character
                        System.out.println("Please enter a single character: ");
                        userChar= input.next().charAt(0);


                        //if the character is not a digit or either type of letter, print
other.
                        if (userChar < DIGIT_MIN_LIMIT || (DIGIT_MAX_LIMIT < userChar &&
userChar <UPPER_CASE_MIN_LIMIT))
                                { System.out.println("Other!"); }

                        //else, if the character is a digit, print Digit.
                        else if (DIGIT_MIN_LIMIT <= userChar && userChar <=
DIGIT_MAX_LIMIT)
                                { System.out.println("Digit!"); }

                        //else, if the character is a lower case letter, print LowerCase.
                        else if (LOWER_CASE_MIN_LIMIT <=userChar &&
userChar<=LOWER_CASE_MAX_LIMIT)
                                {System.out.println("LowerCase!");}

                        //else, if the character is an Max case letter, print MaxCase.
                        else if (UPPER_CASE_MIN_LIMIT <=userChar && userChar
<=UPPER_CASE_MAX_LIMIT)
                                {System.out.println("UpperCase!");}

                        input.close();
                        }
        }
```

```
Please enter a single character:
5
Digit!
```

```
Please enter a single character:
@
Other!
```

```
Please enter a single character:
F
UpperCase!
```

```
Please enter a single character:
F
MaxCase!
```

Exe_6_TipCalculator

```java
//Dalya William & Guy Rahamim
//Assignment 6
import java.util.Scanner;
public class Exe_6_TipCalculator
        {
                public static void main(String[] args)
                {
                        //initializing variables.
                        Scanner input = new Scanner(System.in);
                        float mealPrice, priceIncludingTip=0,
                                tipMe10=0.10f,
                                tipMe12=0.12f,
                                tipMe15=0.15f,
                                tipMe20=0.20f;
                                int tipAmount;

                        //taking the price of the users meal.
                        System.out.print("Please enter the price of you meal: ");
                        mealPrice=input.nextFloat();

                        //taking the user tip percentage.
                        System.out.println("Plese choose your preferred tip amount in %:
");
                        System.out.println("Tipping options are: 10%, 12%, 15%, 20%");
                        tipAmount=input.nextInt();

                        switch(tipAmount)
                        {
                                case (10):
                                {
                                        //if user chose 10, add 10% to meal price.
                                        priceIncludingTip=mealPrice+(mealPrice*tipMe10);
                                        break;
                                }

                                case (12):
                                {
                                        //if user chose 12, add 12% to meal price.
                                        priceIncludingTip=mealPrice+(mealPrice*tipMe12);
                                        break;
                                }

                                case (15):
                                {
                                        //if user chose 15, add 15% to meal price.
                                        priceIncludingTip=mealPrice+(mealPrice*tipMe15);
                                        break;
                                }

                                case (20):
                                {
                                        //if user chose 20, add 20% to meal price.
```

```java
                                priceIncludingTip=mealPrice+(mealPrice*tipMe20);
                                break;
                    }
            }
            //print the final meal price, including the chosen tip.
            System.out.println("The price of your meal including tip is: " +
priceIncludingTip);
                    input.close();
            }
    }
```

```
Please enter the price of you meal: 100

 Please choose your preferred tip amount in %:
Tipping options are: 10%, 12%, 15%, 20%
10
The price of your meal including tip is: 110.0
```

```
Please enter the price of you meal: 100

 Please choose your preferred tip amount in %:
Tipping options are: 10%, 12%, 15%, 20%
12
The price of your meal including tip is: 112.0
```

```
Please enter the price of you meal: 100

 Please choose your preferred tip amount in %:
Tipping options are: 10%, 12%, 15%, 20%
15
The price of your meal including tip is: 115.0
```

```
Please enter the price of you meal: 100

 Plese choose your preferred tip amount in %:
Tipping options are: 10%, 12%, 15%, 20%
20
The price of your meal including tip is: 120.0
```

Exe_7_Super7Boom

```java
//Dalya William & Guy Rahamim
//Assignment 7
import java.util.Scanner;
public class Exe_7_Super7Boom
        {
                public static void main(String[] args)
                {
                        //initializing input.
                        Scanner input= new Scanner (System.in);
                        int outerCounter=1, innerCounter=1, digit;
                        char digitBottomLimit=0, digitUpperLimit=9;

                        // a do while loop that repeats as long as the input
                        // is not a single digit.

                        System.out.println("Please enter a single digit.");
                        digit=input.nextInt();

                        while (digit<=digitBottomLimit || digit > digitUpperLimit)
                            {
                                    //while the input is not a digit
                                    //print bad input and ask for a new entry.
                                    System.out.println("Bad input! Please enter a single
digit.");

                                    digit=input.nextInt();
                            }

                        //the outer counter repeats 100 times.
                        while (outerCounter<=100)
                            {
                                    //the inner while loop repeats 10 times per cycle, for 10
cycles.

                                    while (innerCounter<=10)
                                      {
                                              //if the outer counter % digit = 0, print
BOOM.

                                              if (outerCounter%digit==0)
                                                      System.out.print("BOOM ,  ");
                                              else //if not, print the current value of
outer counter.

                                                      System.out.print("  " + outerCounter
+ "  ,    ");

                                              //increase both counters by 1.
                                              outerCounter++;
                                              innerCounter++;
                                      }
                                    System.out.println("");
                                    //set inner counter back to 1 so the
                                    //inner while loop can start over.
                                    innerCounter=1;
                            }
                        input.close();
                }
        }
```

```
Please enter a single digit.
15
Bad input! Please enter a single digit.
4
  1 ,      2 ,      3 ,     BOOM ,    5 ,    6 ,     7 ,    BOOM ,    9 ,    10 ,
 11 ,    BOOM ,   13 ,     14 ,     15 ,   BOOM ,   17 ,    18 ,    19 ,   BOOM ,
 21 ,     22 ,     23 ,    BOOM ,   25 ,    26 ,    27 ,   BOOM ,   29 ,    30 ,
 31 ,    BOOM ,   33 ,     34 ,     35 ,   BOOM ,   37 ,    38 ,    39 ,   BOOM ,
 41 ,     42 ,     43 ,    BOOM ,   45 ,    46 ,    47 ,   BOOM ,   49 ,    50 ,
 51 ,    BOOM ,   53 ,     54 ,     55 ,   BOOM ,   57 ,    58 ,    59 ,   BOOM ,
 61 ,     62 ,     63 ,    BOOM ,   65 ,    66 ,    67 ,   BOOM ,   69 ,    70 ,
 71 ,    BOOM ,   73 ,     74 ,     75 ,   BOOM ,   77 ,    78 ,    79 ,   BOOM ,
 81 ,     82 ,     83 ,    BOOM ,   85 ,    86 ,    87 ,   BOOM ,   89 ,    90 ,
 91 ,    BOOM ,   93 ,     94 ,     95 ,   BOOM ,   97 ,    98 ,    99 ,   BOOM ,
```

Exe_8_SelfCashRegister

```java
//Dalya William & Guy Rahamim
//Assignment 8
import java.util.Scanner;
public class Exe_8_SelfCashRegister
{
        public static void main(String[] args)
        {
                //initializing variables.
                Scanner input = new Scanner (System.in);
                float   totalPrice=0.f,
                        currentPrice=0.f,
                        bambaPrice=3.9f,
                        cokePrice=4.5f,
                        bubblegumPrice=1.5f,
                        icecreamPrice=8.0f;
                char addRemoveOrSum='0', productSelection;

                //boolean that stores if '=' was entered mid loop
                boolean suddenCheckout=false;

                System.out.println("Welcome to our shop!");

                //A while loop asks for a product and an
                //action (+,-). then calculates
                //total price when user enters =.
                while (addRemoveOrSum!='=')
                {
        //      suddenCheckout=false;
                System.out.println("Please Choose a product from the following:"
                        + "\n 1.Bamba: 3.9 NIS"
                        + "\n 2.Coke: 4.5 NIS "
                        + "\n 3.Bubblegum: 1.5 NIS"
                        + "\n 4.Icecream: 8 NIS"
                        + "\n \n at any stage, press (=) to check out");
                productSelection=input.next().charAt(0);
                if (productSelection >='1' && productSelection <= '4'|| productSelection=='=' )
                        {
                //switch statement that chooses a product.
                switch (productSelection)
                {
                        case '1':
                        {
                                System.out.println("You chose bamba");
                                currentPrice=bambaPrice;
                                break;
                        }

                        case '2':
                        {
                                System.out.println("You chose coke");
                                currentPrice=cokePrice;
                                break;
                        }

                        case '3':
                        {
                                System.out.println("You chose bubble gum");
                                currentPrice=bubblegumPrice;
```

```java
                    break;
            }

            case '4':
                {
                System.out.println("You chose ice cream");
                currentPrice = icecreamPrice;
                    break;
            }

            case '=':
            { suddenCheckout=true;
        }

        // if user entered = when choosing a product,
        //break out of the loop.
            if (suddenCheckout==true)
                break;

        //asking the user whether to add or remove a product
        System.out.println("do you want to add the product (+) or remove it (-)?");
        addRemoveOrSum=input.next().charAt(0);

            switch (addRemoveOrSum)
            {
                case '+':
                    {
                            totalPrice += currentPrice;
                            System.out.println("Product added!");
                            break;
                    }

                case '-':
                {
                        totalPrice-=currentPrice;
                        System.out.println("Product removed!");
                        break;
                }

                case '=':
                { suddenCheckout=true; }
            }

                // if user entered '=' when choosing a product,
                //break out of the loop.
            if (!suddenCheckout)
                {
        System.out.println("Would you like to check out?"
                    + "\n if yes, enter =. if not, press any key. \n");

        addRemoveOrSum=input.next().charAt(0);
        currentPrice=0;//reset currentPrice until it receives a new value.
                }
            }
        else System.out.println("bad input! please choose a number from 1 to 4");
            }
        //as long as the user hasn't typed "=", enter the loop again.
        System.out.println("The total price of your purchase is: " + totalPrice);
            input.close();
        }
}
```

```
Welcome to our shop!
Please Choose a product from the following:
 1.Bamba: 3.9 NIS
 2.Coke: 4.5 NIS
 3.Bubblegum: 1.5 NIS
 4.Icecream: 8 NIS

 at any stage, press (=) to check out
1
You chose bamba
do you want to add the product (+) or remove it (-)?
+
Product added!
Would you like to check out?
 if yes, enter =. if not, press any key.

n
Please Choose a product from the following:
 1.Bamba: 3.9 NIS
 2.Coke: 4.5 NIS
 3.Bubblegum: 1.5 NIS
 4.Icecream: 8 NIS

 at any stage, press (=) to check out
1
You chose bamba
do you want to add the product (+) or remove it (-)?
+
Product added!
Would you like to check out?
 if yes, enter =. if not, press any key.


=
The total price of your purchase is: 7.8
```

```
Welcome to our shop!
Please Choose a product from the following:
 1.Bamba: 3.9 NIS
 2.Coke: 4.5 NIS
 3.Bubblegum: 1.5 NIS
 4.Icecream: 8 NIS

 at any stage, press (=) to check out
7
bad input! please choose a number from 1 to 4
Please Choose a product from the following:
 1.Bamba: 3.9 NIS
 2.Coke: 4.5 NIS
 3.Bubblegum: 1.5 NIS
 4.Icecream: 8 NIS

 at any stage, press (=) to check out
1
You chose bamba
do you want to add the product (+) or remove it (-)?
=
The total price of your purchase is: 0.0
```