Credit
3120
Assignment
E1 MySavings

How has your program changed from planning to coding to now? Please explain?

Starting off the main code code part

```
1  package mastery;
2
3  public class E1MySavings {
4      private double totalMoney;
5      private double pennies;
6      private double nickels;
7      private double dimes;
8      private double quarters;
9
10     public E1MySavings(){
11         totalMoney = 0;
12     }
13
14
15     public E1MySavings(double moola, double p, double n, double d, double q)
16     {
17         totalMoney = moola;
18         double pennies = p;
19         double nickels = n;
20         double dimes = d;
21         double quarters = q;
22
23
24
25     }
26
27
```

Starting with first display screen

```java
package mastery;

public class E1MySavings {
    private double totalMoney; //making these variables private and unaccessable
    private double pennies;
    private double nickels;
    private double dimes;
    private double quarters;

    public E1MySavings(){ //creating main starting constructor
        totalMoney = 0;
        pennies = 0;
        nickels = 0;
        dimes = 0;
        quarters = 0;
    }


    public E1MySavings(double moola, double p, double n, double d, double q) //creating overloaded constructor
    {
        totalMoney = moola;
        double pennies = p;
        double nickels = n;
        double dimes = d;
        double quarters = q;

    }

    public displayMainSelectionScreen() {
        System.out.println("Please input the number of your option.");
        System.out.println("1. Show total in bank.");
        System.out.println("2. Add pennies.");
        System.out.println("3. Add nickels.");
        System.out.println("4. Add dimes.");
        System.out.println("5. Add quarters.");
        System.out.println("6. Take money out of bank.");

    }

```

Had to move it to the test code

```java

import java.util.Scanner;


public class E1MySavingsTest {
    public static void main(String[] args){
        //creating scanner for user input
        Scanner scanner = new Scanner(System.in);

        //sets spot so we can use methods and such from the other file
        E1MySavings spot = new E1MySavings();

        //defining variables
        int userSelection = 0;



        while (true) { //loop incase user inputs something other then whats listed
            String selection = scanner.nextLine(); //accepts input
            System.out.println("Please input the number of your option.");
            System.out.println("1. Show total in bank.");
            System.out.println("2. Add pennies.");
            System.out.println("3. Add nickels.");
            System.out.println("4. Add dimes.");
            System.out.println("5. Add quarters.");
            System.out.println("6. Take money out of bank.");
            System.out.println("Enter 0 to quit.");


            //if the user inputs anything other then the listed options it will loop and restart the asking process
            if (selection == "1" || selection == "2" || selection == "3" || selection == "4" || selection == "5" || selection == "6" ||selection ==  "0") {
                userSelection = Integer.parseInt(selection); //converts input to int from string and saves it
                break; //ends loop
            }

            else { //if user inputs anythig other then listed options it will restart loop
                System.out.println("Error. Please select a listed option."); //says error
                continue;//restarts loop
            }
```

Changing a whole bunch of stuff,

```java
public class E1MySavings {
    private double totalMoney; //making these variables private and unaccessable
    private int pennies;
    private int nickels;
    private int dimes;
    private int quarters;

    public E1MySavings(){ //creating main starting constructor
        totalMoney = 0;
        pennies = 0;
        nickels = 0;
        dimes = 0;
        quarters = 0;
    }


    public E1MySavings(double moola, double p, double n, double d, double q) //creating overloaded constructor
    {
        totalMoney = moola;
        double pennies = p;
        double nickels = n;
        double dimes = d;
        double quarters = q;

    }


    //to display the total amount of money
    public double displayTotalMoney() {
        double totalMoney = (pennies * 0.01 + nickels * 0.05 + dimes * 0.10 + quarters * 0.25);
        return(totalMoney);
    }

    //for when  user adds pennies
    public int addPennies (int useraddedpennies){
        pennies += useraddedpennies;
        return(pennies);
    }

```

Creating methods for each of the options user can select

```java
        return(totalMoney);
    }

    //for when  user adds pennies
    public int addPennies (int addedpennies){ //accepts how many pennies user adds
        pennies += addedpennies; //adds the amount of pennies the user added to the current amount of pennies
        return(pennies); //returns new amount of pennies
    }


    //for when  user adds nickels
    public int addNickels (int addednickels){
        nickels += addednickels;
        return(nickels);
    }

    //for when  user adds dimes
    public int addDimes (int addeddimes){
        nickels += addeddimes;
        return(dimes);
    }


    //for when  user adds quarters
    public int addQuarters (int addedquarters){
        quarters += addedquarters;
        return(quarters);
    }

    //when user takes money out of the bank
    public double withdrawMoney (double withdrawAmount) {

        if (withdrawAmount <= totalMoney & withdrawAmount > 0) { //if function so it will only pass if the number the is less then the amount of money in the bank and more then 0
            totalMoney = (totalMoney - withdrawAmount); //removes user amount not money from bank
            System.out.println("You have $" + totalMoney + " left in your account."); //says how much is left
            return(totalMoney); //returns total money

        } else { //will reject anything else as an answer
            System.out.println("Error. You can not withdraw that amount money from your bank.");//says error
            return(totalMoney); //returns total money
        }


    }
```

created methods for all options

```
            System.out.println("4. Add dimes.");
            System.out.println("5. Add quarters.");
            System.out.println("6. Take money out of bank.");
            System.out.println("Enter 0 to quit.");
            String selection = scanner.nextLine(); //accepts input


            //if the user inputs anything other then the listed options it will loop and restart the asking process
            if (selection == "1") {


            }else if (selection == "2") {


            }else if (selection == "3") {


            }else if (selection == "4") {


            }else if (selection == "5") {


            }else if (selection == "6") {


            }else if (selection ==  "0") {


            }

            else { //if user inputs anything other then listed options it will restart loop
                System.out.println("Error. Please select a listed option."); //says error
                continue;//restarts loop
            }
```

new way to get user input

```
        while (true) { //loop incase user inputs something other then whats listed
            System.out.println("Please input the number of your option.");
            System.out.println("1. Show total in bank.");
            System.out.println("2. Add pennies.");
            System.out.println("3. Add nickels.");
            System.out.println("4. Add dimes.");
            System.out.println("5. Add quarters.");
            System.out.println("6. Take money out of bank.");
            System.out.println("Enter 0 to quit.");
            String strselection = scanner.nextLine(); //accepts input
            System.out.println(strselection);

            try {
                selection = Integer.parseInt(strselection);
            } catch (Exception e) {
                System.out.println("Something went wrong. Please try again.");
                continue;
            }

            //if the user inputs anything other then the listed options it will loop and restart the asking process
            if (selection == 1) {
                spot.displayTotalMoney();

            }else if (selection == 2) {


            }else if (selection == 3) {


            }else if (selection == 4) {


            }else if (selection == 5) {


            }else if (selection == 6) {


            }else if (selection ==  0) {
```

It now accepts user input properly

```
            System.out.println("6. Take money out of bank.");
            System.out.println("Enter 0 to quit.");
            String strselection = scanner.nextLine(); //accepts input

            try {//in case a error happens the code doesnt just end
                selection = Integer.parseInt(strselection); //changes the input form user to int from string
            } catch (Exception e) { //to not break code
                System.out.println("Something went wrong. Please try again.");//tells user to try again
                continue;//restarts loop
            }

            //if the user inputs anything other then the listed options it will loop and restart the asking process
            if (selection == 1) {
                spot.displayTotalMoney();//gets total money from other file and prints it
                System.out.println("");//creates white space

            }else if (selection == 2) {
                System.out.println("How many pennies would you like to deposit?");
                strselection = scanner.nextLine();

                try {//in case a error happens the code doesnt just end
                    selection = Integer.parseInt(strselection); //changes the input form user to int from string
                    spot.addPennies(selection); //runs addpennies method from other file
                    System.out.println("You have deposited " + selection + " pennies!");
                    System.out.println("");//creates white space

                } catch (Exception e) { //to not break code
                    System.out.println("Something went wrong. Please try again.");//tells user to try again
                    System.out.println("");//creates white space
                    continue;//restarts loop
                }
```

Now filters if user puts wrong thing in, now will copy the chunk for selection 2 till 5, same code just different amounts of money

```
            }else if (selection == 2) {
                System.out.println("How many pennies would you like to deposit?");
                strselection = scanner.nextLine();//accepts user input
                spot.addPennies(strselection);//runs the add pennies method

            }else if (selection == 3) {
```

Was able to move all the code to the method

```
//for when  user adds pennies
public int addPennies (String straddedpennies){ //accepts how many pennies user adds

    try {//in case a error happens the code doesnt just end
        int addedpennies = Integer.parseInt(straddedpennies); //changes the input form user to int from string
        System.out.println("You have deposited " + addedpennies + " pennies!");
        System.out.println("");//creates white space
        pennies += addedpennies; //adds the amount of pennies the user added to the current amount of pennies
        return(pennies); //returns new amount of pennies

    } catch (Exception e) { //to not break code
        System.out.println("Something went wrong. Please try again.");//tells user to try again
        System.out.println("");//creates white space
        return(pennies);

    }
}
```

Final code just need to test,

```
                }else if (selection == 2) {
                    System.out.println("How many pennies would you like to deposit?");
                    strselection = scanner.nextLine();//accepts user input
                    spot.addPennies(strselection);//runs the add pennies method

                }else if (selection == 3) {
                    System.out.println("How many nickels would you like to deposit?");
                    strselection = scanner.nextLine();//accepts user input
                    spot.addNickels(strselection);//runs the add nickels method

                }else if (selection == 4) {
                    System.out.println("How many dimes would you like to deposit?");
                    strselection = scanner.nextLine();//accepts user input
                    spot.addDimes(strselection);//runs the add dimes method

                }else if (selection == 5) {
                    System.out.println("How many quarters would you like to deposit?");
                    strselection = scanner.nextLine();//accepts user input
                    spot.addQuarters(strselection);//runs the add quarters method

                }else if (selection == 6) {
                    spot.withdrawMoney(strselection);//removes money from the account

                }else if (selection ==  0) {
                    System.out.println("Bye bye!");
                    break; //ends the application

                }

                else { //restarts loop incase anything unexpected happens
                    System.out.println("Something went wrong. Please try again.");
                    System.out.println("");//whitespace
                    continue;//restarts loop
                }

            } catch (Exception e) { //final loop block for if any errors pop up
                System.out.println("Something went wrong. Please try again.");
                System.out.println("");//whitespace
                continue;//restarts loop
            }
        }
```

Final looping block things in case any errors happen

Touch ups and grammar

```
}

//when user takes money out of the bank
public double withdrawMoney (String strwithdrawAmount) {
    try {
        double withdrawAmount = Double.parseDouble(strwithdrawAmount); //changes the input form user to int from string
        double totalMoney = (pennies * 0.01 + nickels * 0.05 + dimes * 0.10 + quarters * 0.25); //calculates amount of money in account
        totalMoney = Math.round(totalMoney * 100.0) / 100.0; //to round to the nearest hundredth
        if (withdrawAmount < totalMoney & withdrawAmount > 0) { //if function so it will only pass if the number the is less then the amount of money in the bank and more then 0
            totalMoney = (totalMoney - withdrawAmount); //removes user amount from money from bank
            totalMoney = Math.round(totalMoney * 100.0) / 100.0; //to round to the nearest hundredth
            System.out.println("You have $" + totalMoney + " left in your account."); //says how much is left
            return(totalMoney); //returns total money

        } else { //will reject anything else as an answer
            System.out.println("Error. You can not withdraw that amount of money from your bank.");//says error
            return(totalMoney); //returns total money
        }
    } catch (Exception e) { //final error catcher
        System.out.println("Something went wrong. Please try again.");
        totalMoney = Math.round(totalMoney * 100.0) / 100.0; //to round to the nearest hundredth
        return(totalMoney);
    }
}
```

In this chunk