REFLECTION LOG

```
package mastery;

import java.util.Scanner;
import java.text.DecimalFormat;

public class Mysavings {
```

Imports scanner and decimal format and creates class

```
 public static void main(String[] args) {
     //links piggybank to mysavings
     PiggyBank pb = new PiggyBank();

     // Lets the user input values and makes it so that
     Scanner in = new Scanner(System.in);
     DecimalFormat deca = new DecimalFormat("#.##");
```

Connects piggybank to mysavings
Creates new scanner object to record input and decimal format to restrict decimal places to the hundredths

```
 //establish int
 int choice = 0;
```

Establish int choice outside of the do while loop to run the loop

```
  do {
  //prompt user to enter a number to pick what they want to do
      System.out.println("1. Show total in bank");
      System.out.println("2. Add a penny");
      System.out.println("3. Add a nickel");
      System.out.println("4. Add a dime");
      System.out.println("5. Add a quarter");
      System.out.println("6. Take money out of your bank");
      System.out.println("Enter 0 to quit");
      System.out.print("Enter your choice: ");

      //changes choice to the user input
      choice = in.nextInt();
```

Do while loop to run code until user types 0 into choice
Prompt user for input
Store user input into choice

```
//switch case for each choice
switch (choice) {

//Show total in bank when user picks 1
    case 1:
        //takes user input and uses pb.bankTotal to show how much is in the bank with deca forma
        System.out.println("Total in bank: $" + deca.format(pb.bankTotal()));
        break;

      //Add a penny when user picks 2
    case 2:
      //adds 1 penny to the bank using pb.penny
        pb.penny(1);
        System.out.println("Added 1 penny");
        break;

      //Add a nickel when user picks 3
    case 3:
          //adds 1 nickel to the bank using pb.nickel
        pb.nickel(1);
        System.out.println("Added 1 nickel");
        break;

      //Add a dime when user picks 4
    case 4:
          //adds 1 dime to the bank using pb.dime
        pb.dime(1);
        System.out.println("Added 1 dime");
        break;

      //Add a quarter when user picks 5
    case 5:
         //adds 1 quarter to the bank using pb.quarter
        pb.quarter(1);
        System.out.println("Added 1 quarter");
        break;

      //Take money out of piggy bank when user picks 6
    case 6:
          //uses pb.bankTotal to show the total amount the user has in the bank and then resets
        System.out.println("You took $" + deca.format(pb.bankTotal()) + " out of the bank" );
        pb.takeOut();
        break;

      //ends the program when user picks 0
    case 0:
      //confirmation message
        System.out.println("Quit successful");
        break;
}
}

//keeps the loop going when
    while (choice != 0);

    }
}
```

Uses switch case on choice to choose which method to run based off of the menu the user picked from. Switch case is inside a do while loop which loops the code until the user enters the quit option

Case 0 ends the do while loop and stops the code

Case 1 shows the total in the bank

Case 2 adds a penny to the bank with pb.penny

Case 3 adds a nickel to the bank with pb.nickel

Case 4 adds a dime to the bank with pb.dime

Case 5 adds a quarter to the bank with pb.quarter

Case 6 takes out money using pb.takeOut

```java
package mastery;

public class PiggyBank {

    //create variables
    private int pen;
    private int nic;
    private int dime;
    private int quart;

    //constructor method
    public PiggyBank() {
        pen = 0;
        nic = 0;
        dime = 0;
        quart= 0;
    }

    //adds whatever number is set in mysavings to pen
    public void penny (int num) {
        pen += num;
    }

    //adds whatever number is set in mysavings to nic
    public void nickel (int num) {
        nic += num;
    }

    //adds whatever number is set in mysavings to dime
    public void dime (int num) {
        dime += num;
    }

    //adds whatever number is set in mysavings to quart
    public void quarter (int num) {
        quart += num;
    }

    //turns pen nic and dime into their monetary values and adds them all together for the total amount in the bank
    public double bankTotal () {
        return (pen * 0.01) + (nic * 0.05) + (dime * 0.1) + (quart * 0.25);
    }

    //resets pen nic dime and quart to 0 to represent taking out money from the bank
    public void takeOut( ) {
        pen = 0;
        nic = 0;
        dime = 0;
        quart= 0;
    }
}
```

Public PiggyBank sets all the variables to 0 as starting value and is constructor method

public void penny adds a penny to the bank so it adds $0.01

public void nickel adds a nickel to the bank so it adds $0.05

public void dime adds a dime to the bank so it adds $0.10

public void quarter adds a quarter to the bank so it adds $0.25

public double bankTotal shows the total in the bank by adding all the pennies nickels dimes and quarters the user added and outputting the number

Public void takeOut sets all variables back to 0