

```
//Method to add Pennies
public double AddP()
{
    String P_added;

    B += P;

    P_added = "$ 0.01 was added to your balance";

    return(P_added);
}
```

Syntax error: I am not returning the value of the bank account but a statement that a penny was added. Therefore I am returning a string, not a double.

```
public String AddP()
{
    String P_added;

    B += P;

    P_added = "$ 0.01 was added to your balance";

    return(P_added);
}
```

Changed public double AddP() to public String AddP().

```
double M_out;
String money_out;

M_out = out;

B -= M_out;

money_out = "You have successfully taken out $" + df.format(M_out) + " from your bank account.";

return(money_out);
```

Logic error: did not account for when they try to take out more money than what is in their bank account.

```
6 public String takeM(double out)
7 {
8     double M_out;
9     String money_out;
10
11     M_out = out;
12
13     if(M_out > B)
14     {
15         money_out = "Your Bank balance is insufficient to take out your desired amount. Please add funds to your account.";
16     }
17     else
18     {
19         B -= M_out;
20
21         money_out = "You have successfully taken out $" + df.format(M_out) + " from your bank account.";
22     }
23
24     return(money_out);
25 }
26 }
```

Fixed using an if- else statement, where if there is not sufficient money in the bank account, a message is displayed outlining the above and no change is made to the bank account value.

```
//Ask user and present their choices
System.out.println("1. Enter 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 out money.");
System.out.println("Enter 0 to QUIT");
System.out.println("Enter your choice: ");
choice = input.nextInt();

switch (choice)
{

    case 0:
        System.out.println("Quitting the program.");

    case 1 :
        System.out.println(userbank.toString());
        break;

    case 2 :
        System.out.println(userbank.AddP());
        break;

    case 3 :
        System.out.println(userbank.AddN());
        break;

    case 4 :
        System.out.println(userbank.AddD());
        break;
}
```

Logic error: in client code, There is no loop which allows the user to repeat a process (e.g. adding a quarter twice, then adding a dime and quit the program after)

```
//Start While loop to keep coming back to options until user inputs 0
int choice = 10;
while(choice !=0)
{
    //Ask user and present their choices
    System.out.println("1. Enter 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 out money.");
    System.out.println("Enter 0 to QUIT");
    System.out.println("Enter your choice: ");
    choice = input.nextInt();

    switch (choice)
    {

        case 0:
            System.out.println("Quitting the program.");

        case 1 :
            System.out.println(userbank.toString());
            break;

        case 2 :
            System.out.println(userbank.AddP());
            break;

        case 3 :
            System.out.println(userbank.AddN());
            break;

        case 4 :
            System.out.println(userbank.AddD());
            break;

        case 5 :
            System.out.println(userbank.AddQ());
            break;

        case 6 :
```

Fixed by using a while loop.