

3. (100 points) Consider the following code.

Identify an action in the code that is used frequently, which might make it a good method. Create the method and rewrite the code to call the method instead.

Hint: Methods don't always "save lines" of code in our main method, but sometimes they make the code look a bit cleaner, and make actions more obvious!

```

1 import java.util.Scanner;
2 public class Week6Exercise3 {
3     public static void main ( String [ ] args ) {
4         Week6Exercise3 tester = new Week6Exercise3();
5         Scanner scan = new Scanner(System.in);
6         System.out.println("Provide 3 numbers please (space or new line
           ↳ separated): ");
7         double x = scan.nextDouble();
8         double y = scan.nextDouble();
9         double z = scan.nextDouble();
10        x = x * x * x;
11        y = y * y * y;
12        z = z * z * z;
13        System.out.println("Your numbers cubed are: " + x + ", " + y + ", "
           ↳ + z + ".");
14    }
15 }

```

```
import java.util.Scanner;
```

```
public class Week6Exercise3 {
```

```
    public static void main (String [ ] arg) {
```

```
        Week6Exercise3 tester = new Scanner(System.in);
```

```
        System.out.println("Provide 3 numbers please (space or new
        ↳ line separated): ");
```

```
        double x = scan.nextDouble();
```

```
        double y = scan.nextDouble();
```

```
        double z = scan.nextDouble();
```

```
        x = tester.cubed(x);
```

```
        y = tester.cubed(y);
```

```
        z = tester.cubed(z);
```

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```
        System.out.println("Your numbers cubed are: " + x + ", " + y + ", "
        ↳ + z + "."); }

```

```
    public double cubed(double num){
```

```
        num = num * num * num;
```

```
        return num; }

```

4. (100 points) Consider the following code.

Identify a set of actions that would be made more clear (as well as easier to use later) with a good method.

Create the method and rewrite the code to call the method instead.

```

1 import java.util.Scanner;
2 public class Week6Exercise4 {
3     public static void main(String[] args){
4         Week6Exercise4 tester = new Week6Exercise4();
5         Scanner scan = new Scanner(System.in);
6
7         //Get all the needed values from the user
8         System.out.println("Give me a whole number representing the total
9             ↪ cents all your coins are worth: ");
10        int coinAmount = scan.nextInt();
11
12        //Determine the value of the coins in dollars and cents
13        int dollars = (int) (coinAmount/100);
14        int cents = coinAmount % 100;
15        double centDecimalValue = cents * .01;
16        double amountAsDollarsAndCents = dollars + centDecimalValue;
17
18        System.out.println("The coins in monetary notation are worth: $" +
19            ↪ amountAsDollarsAndCents);
20    }
21 }

```

```

import java.util.Scanner;
public class Week6Exercise4 {
    public static void main(String [] args) {
        Week6Exercise4 tester = new Week6Exercise4();
        System.out.println("Give me a whole number representing
        ↪ the total cents all your coins are worth: ");
        int coinAmount = scan.nextInt();
        double amountAsDollarsAndCents = tester.valueOfCoinsConv(coinAmount);
        System.out.println("The coins in monetary notation are worth;
        ↪ $" + amountAsDollarsAndCents);
    }
}

```

```

public double valueOfCoinsConv(int coinAmount) {
    int dollars = (int) (coinAmount/100);

```

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```

    int cents = coinAmount % 100;
    double centDecimalValue = cents * .01;
    double amountAsDollarsAndCents = dollars + centDecimalValue;
    return amountAsDollarsAndCents;
}

```