

Project 4 - 15 points

Write a Java program to demonstrate using vectors, enumerations and `instanceof`. You will create a **wallet** that contains a random number of items from different classes of content. Each class of content will be an enumeration.

Recall that enumerations are special forms of classes and therefore are subclasses of the Object superclass. Using your knowledge of enumerations, create the following enumerations with the constants defined below:

CreditCard = { Visa, MasterCard, AmericanExpress, Lowes, BJ's, HomeDepot, DinersClub, Debit }

Photos = { Spouse, Dog, Cat, Pet, Children, Friend, Parents, Grandparents }

MiscCards = { DriverLicense, MilitaryID, SSNCard, BloodDonor, Insurance, Library,
RecordOfConviction, BarnesAndNoble, Borders }

PaperCurrency = { One, Five, Ten, Twenty, Fifty, Hundred }

Your **wallet** will be a vector class of type Object. In this way you can add any type of item to the wallet.

Your wallet will contain the following materials:

- Between 2 and 5 credit cards, inclusive.
- Between 0 and 10 photos, inclusive.
- Between 3 and 6 miscellaneous cards, inclusive.
- Between 0 and 20 pieces of paper currency, inclusive.

Each of the above is a random value within the specified range, but the catch is each item of a given category must be selected randomly. That is, if you are to add 3 credit cards to the wallet, each credit card **type** must be randomly selected. This is also true for all of the other categories.

Where this gets a little tricky is after the wallet is filled, you will **shuffle** the wallet using the `Collections.shuffle()` method. This will further randomize the contents.

At this point, someone has basically handed you your wallet with its contents stuffed into one section. You now have to reorganize it. This is to be done by creating **four methods** to print the vector contents for each class of item using the `instanceof` operator. The following output is your guide on how to proceed:

Contents of wallet:

[BJs, MasterCard, Spouse, Cat, Children, Parents, GrandParents, Insurance, Borders, BarnesAndNoble, BarnesAndNoble, One, Fifty, Ten, Ten, Five, Ten, One, Twenty, Ten, Hundred]

Contents of wallet after shuffle:

[Borders, BarnesAndNoble, Ten, Fifty, Parents, Five, Ten, Spouse, Children, MasterCard, Cat, GrandParents, One, One, Insurance, Hundred, Ten, BJs, BarnesAndNoble, Twenty, Ten]

Credit Cards:

MasterCard

BJs

Photos:

Parents

Spouse

Children

Cat

GrandParents

Miscellaneous Cards:

Borders

BarnesAndNoble

Insurance

BarnesAndNoble

Paper Currency:

Ten

Fifty

Five

Ten

One

One

Hundred

Ten

Twenty

Ten

Currency value: 217 dollars

To determine how to figure the value of the currency, take a look at the coins example from the notes.

This project should be called d4.java and submitted using:

```
$ submit jojo d4.java
```