

HW 1: Learning Enums With International Coinage

Complete the program `MakeChange`, using both US and old-style British coins.

The program takes a single number from the user, indicating how much money he or she has. This value is given in coins of the lowest denomination (e.g. cents, pence, etc.). The program then calculates how much of each coin the user should have. Thus, if the coinage is American, and the user gives 298¢, this should come out to 2 dollars, 3 quarters, 2 dimes, 0 nickels, and 3 pennies.

You will need to make two versions of this enum: the American one should be called `USCoin.java` and the British one should be called `UKCoin.java`. (Note that the enum must still be called `Coin`, not `USCoin` or `UKCoin`.) If you are using an IDE like Eclipse or BlueJ, it will probably be easiest if you make two entirely different projects, both with the same `MakeChange.java` file. If you are working from the command line, you can do everything in one directory, and only compile the version of `Coin` you wish to use.

The US version will have valid entries for pennies, nickels, dimes, quarters, and dollars. The UK version will have valid entries for pence, three-pence, six-pence, shilling (twelve-pence), florin (twenty-four-pence), half-crown (thirty-pence), and pound (two-hundred-forty-pence) coins. (There's a very good reason why the British abandoned this system in 1971.) Write `USCoin.java` first. When you believe you have it, copy it to the British `UKCoin.java` and make the necessary changes.

I am not going to give you the exact methods you need to create within your `Coin` object. You should be able to deduce them by reading `MakeChange.java`.

Output for the US Version should look like this:

```
Enter number of cents, or 0 to quit: 298
298 cents consists of:
dollar coins: 2
quarter coins: 3
dime coins: 2
nickel coins: 0
penny coins: 3
Enter number of cents, or 0 to quit: 0
Good bye!
```

Correspondingly, output for the UK version should be:

```
Enter number of pence, or 0 to quit: 298
298 pence consists of:
pound coins: 1
half-crown coins: 1
florin coins: 1
shilling coins: 0
```

```
six-pence coins: 0
three-pence coins: 1
penny coins: 1
Enter number of pence, or 0 to quit: 0
Good bye!
```

Please turn in both versions of your Coin enum, in USCoin.java and UKCoin.java. There is no need to turn in MakeChange.java.



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