* “A nut for a jar of tuna” this is an example of a palindrome sentence. A palindrome sentence is those that can be spelled the same way forward an backward. Into the next table on the right side, write down the step-by-step (natural language, NO CODE) to determine if a sentence is a palindrome or not. On the left side list all the java functions you can use to solve this problem.

|  |  |
| --- | --- |
| **Java Functions** | **Step - by - step or algorithm** |
| sentence.replaceAll(" ","");  for(int n=0;i<sentence.length()/2;n++) | 1. Remove blank spaces from the sentence  2. Iterate n=0 until sentence length divided two, making comparison between sentence(n) and sentence(length-n) in case false we know sentence is not a palindrome |

* You have a piggy bank, you can only insert coins of the following denomination.

50, 100, 200, 500 & 1000

Keeping in mind the previous description:

* Represent the logic of a piggy bank using java code. means that you can insert but not remove coins.
* You have the option to know how many coins are in the piggy bank.
* You have the option to how many coins are by a specific denomination.

**import** java.util.ArrayList;

**import** java.util.List;

**public** **class** PiggyBank {

**private** List<Coin> safe = **new** ArrayList<Coin>();

**private** **int** coin\_50;

**private** **int** coin\_100;

**private** **int** coin\_200;

**private** **int** coin\_500;

**private** **int** coin\_1000;

**public** **void** insertCoin(Coin coin) {

**switch** (coin.value) {

**case** 50:

coin\_50++;

safe.add(coin);

**break**;

**case** 100:

coin\_100++;

safe.add(coin);

**break**;

**case** 200:

coin\_200++;

safe.add(coin);

**break**;

**case** 500:

coin\_500++;

safe.add(coin);

**break**;

**case** 1000:

coin\_1000++;

safe.add(coin);

**break**;

**default**:

}

}

**public** **int** countCoins() {

**return** safe.size();

}

**public** **void** countCoinsbyValue(**int** value) {

**int** count = 0;

**for** (Coin coin : safe) {

**if** (coin.value == value)

count++;

}

System.***out***.print("There are " + count + " coins of " + value + " USD");

}

**public** **void** countAllCoins() {

System.***out***.print("There are " + coin\_50 + " coins of 50 USD");

System.***out***.print("There are " + coin\_100 + " coins of 100 USD");

System.***out***.print("There are " + coin\_200 + " coins of 200 USD");

System.***out***.print("There are " + coin\_500 + " coins of 500 USD");

System.***out***.print("There are " + coin\_1000 + " coins of 1000 USD");

}

}

**class** Coin {

**int** value;

**public** **int** getValue() {

**return** value;

}

**public** **void** setValue(**int** value) {

**this**.value = value;

}

}