**GCSE Computer Science Course Work: Coin Counting**

**Overall Problem-**

* A local youth club has organised some coin collections for a charity during the year.
* A lot of money has been collected.
* The coins now need to be counted and paid to the Charity. Club members have volunteered to count the coins. Bags have been supplied to hold the money.
* Each bag must hold exactly the value of coins shown in the table below and contain only one type of coin.
* The volunteers sort the coins by value before counting and bagging them.
* The club leader wants to check that the coins have been counted correctly by weighing each bag. At this stage, any bag containing the wrong number of coins is corrected.

**The coins must be bagged in the set amounts below:**

|  |  |  |  |
| --- | --- | --- | --- |
| ****Coin**** | ****Bag Value**** | ****Weight Per Bag(g)**** | ****No. Of Coins in bag**** |
| **£2** | **£20.00** | **120** | **10** |
| **£1** | **£20.00** | **175** | **20** |
| **50p** | **£10.00** | **160** | **20** |
| **20p** | **£10.00** | **250** | **50** |
| **10p** | **£5.00** | **325** | **50** |
| **5p** | **£5.00** | **325** | **100** |
| **2p** | **£1.00** | **356** | **50** |
| **1p** | **£1.00** | **356** | **100** |

**Problem 1-**

* Allow the user to input their name, coin type and bag weight, This Problem should also Validate the coin type.
* I Will Carry this Out by Creating a function that asks for the name, Coin Type and bag weight. This Information will be then stored into a csv file that I will append with every new user. This function will ask If they are an existing member or a new member.

**Problem 2-**

* Indicate the Number of coins that should be added or removed to make sure it is correct, at this point it should maintain a total count of how many bags have been validated and the total Value.
* I Will Create a Function that Displays What the user Should do, this will Be in a certain colour so the user can Quickly identify what to do. The total count will also be stored in a csv file.

**Problem 3-**

* A User should have the option to display the current total bag weight and value. Also, It Should Display a List of Volunteers, the total number of bags they have counted and the number of bags they counted correctly, as a percentage of their total.
* The function that carries this out will print the total bag weight and value. The list of volunteers can be displayed if the user wishes at this point.

**Problem 3-**

* All data Should be saved in a csv file called CoinCount.csv, This should be loaded at the start of each time the program runs. At the end of the program, the data in CoinCount.csv Should be updated.
* A function that writes the csv info into arrays and reads from the csv will be created and it will upload when the user wants to end the program.

**Sample Data Example:**

