Final Project – Casino Case Study

Design Document Requirement:

The design document needs to include the following explicitly labeled items:
1. Program specifications
2. Algorithm design showing mathematical equations in computer algebra format.
3. Flowchart for main program or functions.
4. Design for text used in input and output displays.
5. Known test data for which you know the results for all possible conditional paths.

Due date for the design document is the last week class. You may be asked to present your design phase in class which will be part of your grade so you may want to make a PowerPoint presentation.

Problem Description

This final program may utilize the casino scenario described below. The Saipan Casino would like to consider creating a chip counting program for the cashier. So chip colors are

*   Black = $5

*   Blue = $20

*   Red = $50

*   Green = $100

*   Gold = $500

The USA Internal Revenue Service has modified the tax code such that US Residents will now have tax withheld from all winnings at a rate determined by the residency of the gambler. This will require customers to retain receipts when they buy chips. The customer will need to submit all receipts when they cash out at a cashier. The winnings are calculated by subtracting the receipt total from the chip value total.

The customer will be asked for their residency by showing either a passport or drivers license. If the customer is a USA, Guam, or CNMI resident they will need to provide their social security number. If the customer has lost they are simply paid cash for all chips. If the customer has won, the following information needs to be requested and calculations made to determine withholding tax based on the latest IRS regulations:

1. U.S. & Guam Residents will have 20% withholding tax on winning.

2. CNMI Residents will have 10% withholding tax on winnings.

3. All foreign residents will have no withholding tax on winnings.

The cash out is determined by subtracting the tax from the total chip value.

The program must display a set of formatted results to include all entered data to include receipts total, chip quantity by color, chip total value, winnings, tax withheld, and amount cashed out. The final results will be printed as a well formatted customer receipt.