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| **Input** | **Process** | **Output** |
| userCardType  userCardNum | Processing Items:   1. evenTotal 2. oddTotal 3. finalValidationNumber   Algorithm:  MAIN:  getCardEnterReady();  WHILE (cardEnterReady == true)  userCardType = getUserCardType();  userCardNum = getUserCardNum();  getCardLengthValidated();  getCardTypeValidated();  evenTotal();  oddTotal();  getFinalValidation();  getCardEnterReady();  END WHILE  Quit.  METHODS:  getCardEnterReady();  Ask user if they want to input number  Enter Y for Yes or any key to Quit  If userInput = Y or y  Return true;  Else  Return false;  getUserCardType()  int userCardType = 0  Ask “Please select your card type.  Enter 1 for Visa  Enter 2 for MasterCard  Enter 3 for American Express  Enter 4 for Discover  Read in userCardType  Return userCardType  getUserCardNum();  long userCardNum = 0  Ask user to input card number  userCardNum = Read in user number  return userCardNum  getCardLengthValidated  int cardLength = 0  While (userCardLength > 0)  userCardLength = userCardLength /10;  cardLength ++  END WHILE  If cardLength > 16 or < 13  Display card invalid length  Return cardLengthCorrect = false  Else  Return cardLengthCorrect = true  getCardTypeValidated();  If user entered 1 for visa  While userCardNum > 9  userCardNum = userCardNum/10  END WHILE  If userCardNum !=4  Display card length not valid  (Repeat same process for all card types)  getCardLengthValidated();  for (count = 0, count <= userCardNum, count++)  userCardNum = userCardNum / 10  if count >16 or <12  Display length invalid  Ask for card number again  getEvenTotal();             while (userCardNum > 0)             {                 evenNum = 0;                 userCardNum = userCardNum / 10;                 evenNum = userCardNum % 10;                 evenNum = evenNum \* 2;                 if (evenNum > 9)                 {                     evenNum = (evenNum / 10) + (evenNum % 10);                 }                  evenTotal = evenTotal + evenNum;              }              return evenTotal;  oddTotal();  while (userCardNum > 0)             {                 oddNum = 0;                 oddNum = userCardNum % 10;                 userCardNum = userCardNum / 10;                 oddTotal = oddTotal + oddNum;             }              return oddTotal;  getFinalValidation();  sumTotal = oddTotal + evenTotal;  if (sumTotal % 10 == 0)  Display card is valid  Else  Display card not valid | cardValid  or  cardInvalid |