```
int n
lint m
int[] computerArray
int[] userArray
int blackPiece
int whitePiece
Random randomNumber = new Random()
int numAttempts = 12
bool isPlaying = true
int playAgain
string[] historyArray
string historyValues
Print ("Welcome to Mastermind")
   While isPlaying == true
   Print ("Please input number of positions required to guess:")
   Read input n
   Print ("Please input number of available digits to choose from:")
   Read input m
   computerArray = new int[n]
   userArray = new int[n]
       for i = 0; i < n; i++
       computerArray[i] = randomNumber.Next(1, m + 1);
       for u = 0; u < n; u++
       Print ("X" + " ")
       for z = 0; z < numAttempts; z++
       historyValues = " "
       blackPiece = 0
        whitePiece = 0
       Print ("Please input your guess")
           for x = 0; x < n; x++
           Print ("Input" + (x + 1))
           Read input userArray[x]
                                        userArray[x] == computerArray[x]
               No
                                                                                   Yes
               for a = 0; a < n; a++
                     userArray[x] =:
                         computerArray[a]
                                                             blackPiece++
                 No
                                                 Yes
                  %
                               whitePiece++
       Print ("Your guess:")
            for b = 0; b < n; b++
            Print (userArray[b] + " ")
            historyValues = historyValues + userArray[b] + " "
       Print("Black pieces: " + blackPiece)
       Print("White pieces: " + whitePiece)
       Print("Number of guesses remaining: " + (numAttempts - z))
                           blackPiece == n
         No
                                                                             Yes
           %
                                 winGame = true
                                 break
                                    winGame == true
      No
                                                                             Yes
     Print ("You lose")
                                           Print ("You win")
    Print ("The correct code was:")
        for q = 0; q < n; q++
        Print (computerArray[q] + " ")
    Print ("Your guesses were:")
       for v = 0; v < 12; v++
                             historyArray[v] != null
         No
                                                                                Yes
                                    Print("Guess" + (v + 1) + ":");
         %
                                    Print(historyArray[v]);
    Print ("Do you want to play again? (YES = 1, NO = 0)")
    Read input playAgain
                           playAgain == 0
     No
                                                                              Yes
      %
                                        isPlaying = false
```

bool winGame = false