Q1

public void q1()

{

Console.WriteLine("Please enter your 16 digit card number:");

string cardNum = Console.ReadLine();

while (cardNum.Length != 16)

{

Console.WriteLine("Invalid number. Please enter your 16 digit card number again:");

cardNum = Console.ReadLine();

}

string reverseCardNum = "";

for (int i = cardNum.Length - 1; i >= 0; i--)

{

reverseCardNum += cardNum[i];

}

int sum = 0;

for (int i = 0; i < reverseCardNum.Length; i++)

{

if ((i + 1) % 2 == 0)

{

string evenNum = (Convert.ToInt32(reverseCardNum[i].ToString()) \* 2).ToString();

for (int j = 0; j < evenNum.Length; j++)

{

sum += Convert.ToInt32(evenNum[j].ToString());

}

}

else

{

sum += Convert.ToInt32(reverseCardNum[i].ToString());

}

}

if (sum % 10 == 0)

{

Console.WriteLine(sum);

Console.WriteLine("Card Number is valid");

}

else

{

Console.WriteLine(sum);

Console.WriteLine("Card Number is invalid");

}

}

Text

Description automatically generated

Q2

public void q2()

{

Console.WriteLine("Please enter 11 numbers seperated by commas: (eg 1,2,3)");

var input = Console.ReadLine().Split(',');

while (input.Length != 11)

{

Console.WriteLine("Invalid input. Please enter again:");

input = Console.ReadLine().Split(',');

}

string nonRepeatedNum = "";

bool status = false;

for (int i = 0; i < input.Length; i++)

{

status = false;

for (int j = 0; j < input.Length; j++)

{

if (i != j && input[i] == input[j])

{

status = true;

}

}

if (status == false)

{

nonRepeatedNum = input[i];

break;

}

}

if (!status)

{

Console.WriteLine("The non-repeating number is " + nonRepeatedNum);

}

else

Console.WriteLine("There are no repeating values");

}

Graphical user interface, text

Description automatically generated

4)https://leetcode.com/explore/featured/card/fun-with-arrays/521/introduction/3237/

public class Solution

{

public int FindNumbers(int[] nums)

{

int count = 0;

for (int i = 0; i < nums.Length; i++)

{

string numStr = nums[i].ToString();

if (numStr.Length % 2 == 0)

{

count++;

}

}

return count;

}

}

5) <https://leetcode.com/explore/featured/card/fun-with-arrays/526/deleting-items-from-an-array/3248/>

public class Solution

{

public int RemoveDuplicates(int[] nums)

{

for (int i = 0; i < nums.ToList().Distinct().Count(); i++)

{

nums[i] = nums.ToList().Distinct().ToList()[i];

}

return nums.ToList().Distinct().Count();

}

}