**Name: Usman Ul Haq**

**Roll# BSAIM-035**

**AI LAB TASKs**

**LAB TASK 4:**

**Lab 4 Task 1. Code for LUHN Algorithm**

LUHN Algorithm (Credit Card Validation)

python

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card\_number = input("Enter a credit card number: ")

reversed\_number = card\_number[::-1]

total\_sum = 0

for index in range(len(reversed\_number)):

digit = int(reversed\_number[index])

if index % 2 == 1:

digit \*= 2

if digit > 9:

digit -= 9

total\_sum += digit

if total\_sum % 10 == 0:

print("The credit card number is Valid.")

else:

print("The credit card number is Invalid.")

**Output**

**Enter a credit card number: 1234456778901212**

**The credit card number is Invalid.**

**2. Write a python program to remove punctuations from the given string?**

text = input("Enter a sentence: ")

punctuations = '''!()-[]{};:'"\,<>./?@#$%^&\*\_~'''

cleaned\_text = ""

for char in text:

if char not in punctuations:

cleaned\_text += char

print("Sentence without punctuation:", cleaned\_text)

**Output**

**Enter a sentence: "This" is me!**

**Sentence without punctuation: This is me**

**3. Write a python program to sort the sentence in alphabetical order?**

sentence = input("Enter a sentence: ")

words = sentence.split()

sorted\_words = []

for word in sorted(words, key=str.lower):

sorted\_words.append(word)

sorted\_sentence = ' '.join(sorted\_words)

print("Sentence in alphabetical order:", sorted\_sentence)

**Output**

**Enter a sentence: My name is Usman**

**Sentence in alphabetical order: is My name Usman**