SUPERIOR UNIVERSITY

Artificial Intelligence (Lab)

Assignment - 4

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Program:

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Question # 1:

Code for LUHN Algorithm

Explanation:

This simple program is known as LHUN algorithm. Mainly it used to check if a card number valid or not. It follows the following steps. It removes the last digit. Than it reverses the complete number then it checks if the if number is an odd number it will multiply the number by 2 and then it will check if the numbers are greater than 9 it will deduct 9 from that specific number. After that it will add the removed number add all of the numbers up and check if it is divisible by 10 then it is valid otherwise its invalid.

Code:

```
def LHUN():
    card=input("Enter the Card Number: ")
    total=0
    reverse_card=card[::-1]
    for i in range (len(reverse_card)):
        num=int(reverse_card[i])
        if i%2==1:
            num*=2
            if num>9:
                num-=9
        total+=num
    if total%10==0:
        print("Valid Card.")
    else:
        print("Invalid Card.")
LHUN()
```

Output:

```
E:\Uni\3rd Semester\2) Artificial Intelligence (Lab)\Assignments\Assignment 4>python task.py
Enter the Card Number: 4782780021055119
Valid Card.
```

Question # 2:

Remove Punctuations from UserInput String (without using remove function).

Explanation:

This program simply takes a sentence from the user as input and removes all the punctuation by replacing the punctuation by nothing (‘’).

Code:

```
def puncutations():
   print("This program will be used to remove all the strings from the sentance.")
   input1=input("Enter the sentance: ")
   kick={",",".","?",",","!","(",")","[","]","{","}","\"","\'","`","@","/","\\","~"}
   for i in input1:
      if i in kick:
         input1=input1.replace(i,"")
   print(input1)
puncutations()
```

Output:

```
E:\Uni\3rd Semester\2) Artificial Intelligence (Lab)\Assignments\Assignment 4>python task.py
This program will be used to remove all the strings from the sentance.
Enter the sentance: If the number is divisible by 3, instead of saying the number, the player should say, "Fizz".
If the number is divisible by 3 instead of saying the number the player should say Fizz
```

Question # 3:

Sort text (word) in Alphabetical Order (without using sort function) can use ASCII.

Explanation:

This program is used to sort the words in alphabetic order without using sort function.

Code:

```
def order():
    lines=input("Enter the sentence: ")
    word=lines.split()

    for i in range(len(word)-1):
        for j in range(len(word)-i-1):
            if word[j]>word[j+1]:
                word[j],word[j+1]=word[j+1],word[j]

    sorted_lines=" ".join(word)
    print(f"Sorted Lines: {sorted_lines}")
order()
```

Output:

```
E:\Uni\3rd Semester\2) Artificial Intelligence (Lab)\Assignments\Assignment 4>python task.py
Enter the sentence: Hi My Name Is Ali Hello World
Sorted Lines: Ali Hello Hi Is My Name World
```