**AI LAB TASK 4**

**Code Explanation for Card Checker (Luhn Algorithm):  
  
1. class card\_checker:** - Defines a class called 'card\_checker' to check if a credit card number is valid.  
  
**2. def \_\_init\_\_(self, card\_num):** - This is the constructor. It runs when we create an object of the class.  
 - It takes a card number and stores it as a string inside the object.  
  
**3. def check\_valid(self):** - This function checks if the card number is valid using the Luhn Algorithm.  
  
 **Steps inside this function:** a) digits = [int(x) for x in self.card\_num]  
 - Converts each character of the card number string into an integer list.  
  
 **b) remove\_dig = digits.pop()** - Removes and saves the last digit of the card number (the check digit).  
  
 **c) digits.reverse()** - Reverses the remaining digits.  
  
 **d) for i in range(len(digits)):**  
 if i % 2 == 0:  
 digits[i] \*= 2  
 if digits[i] > 9:  
 digits[i] -= 9  
 - Loops through the digits.  
 - Every second digit (starting from index 0) is doubled.  
 - If the doubled digit is greater than 9, subtract 9.  
  
 **e) total = sum(digits) + remove\_dig** - Adds up all the digits plus the removed check digit.  
  
 f**) return total % 10 == 0** - If the total is divisible by 10, the card number is valid.  
  
**4. card\_number = card\_checker(4532015112830366)** - Creates an object with the given card number.  
  
**5. if card\_number.check\_valid():**  
 print("valid")  
 **else:** print("not valid")  
 - Calls the function to check if the number is valid and prints the result.