school of computing, informatics, & decision systems engineering

Homework Assignment 2 (20 Points)
CSE 205, Fall 2017
School of Computing, Informatics and Decision Systems Engineering
Arizona State University

Due: By Wednesday 30th 11:59 pm

Introduction: This assignment helps you to reinforce the topics discussed in the class including

a) Relational operators, Boolean operators, data comparison
b) Selection
c) Repetition
d) And problem solving using selection and repetition

Important: This is an individual assignment. Please do not collaborate.

Grading policy: We will check

a) The correctness of your program/solution
b) Variable naming (self describing)
c) Identification of proper data type
d) Appropriate commenting and Indentation.

Credit Card Number Verification Program:

This program simulates the process of credit card number verification process. However, note that the algorithm mentioned here is NOT the exact same algorithm companies use. First, your program should ask if the credit card is master card or visa card. Then ask the 16-digit credit card number. Then add all the digits in the credit card number and get the modulo 10 of the sum. If the modulo 10 of the summation of all the digits is zero, then its valid visa card. If the modulo 10 of the summation of all the digits is 1 then its valid MasterCard. Otherwise, the number customer has entered is an invalid card number.

For example, say the card number is 1234567867891235 and the card type entered is visa. To validate it, first add all the digits

1+2+3+4+ 5+6+7+8+ 6+7+8+9 +1+2+3+5 = 77 then get mod 10 of 77 (77%10 = 7) Since it's not zero, this is not a valid visa card number

Write a Java program that reads the card type and the card number and then determine if the card number entered is a valid.

Save your program as **Assignment2.java**

Requirements and input validation:

Card Number:
You need to read the card number as a long int. The card number should have 16 digits. If the card number does not have 16 digits, then ask the user to re-enter the number.

Card Type:
Card type must be entered as Visa or Master. If the user enter any other type, then ask the user to re-enter the card type

Sample Input and Expected System Output

Run 1:

Enter the card number : 1111111111000000
Enter the card type : Visa

This is a valid Visa card

Run 2:

Enter the card number : 1111111111100000
Enter the card type : Master

This is a valid Master card

Run 3:

Enter the card number : 1111111111110000
Enter the card type : Master

This is not a valid Master card

Run 4:

Enter the card number : 11111111111100002311
Card number should have 16 digits, re-enter

Enter the card number :1111222211112200

Enter the card type : Master

This is not a valid Master card
Run 5:

Enter the card number :1111222211112200
Enter the card type : Amex

Invalid card type select Visa or Master

Enter the card type : Visa

This is a valid Visa card

Submission Instructions

- Submit your **Assignment2.java** file on-line to the blackboard.

NO LATE ASSIGNMENTS WILL BE ACCEPTED