Assignment on CSE 1101

Submission 20/8/2025 at 01.20PM

[For All Sections, 2024 series]

Instructions:

i.   It is an individual assignment

ii.   Submit the assignment though a) a hardcopy and b) a softcopy in Google Classroom

iii.   Each variable name ended by last 3 digits of your Roll Number. For example if your Roll Number is 2403041 then a variable name may be: **card041**

iv.   Copy from others or AI Tool is strictly prohibited

v.   Submission before or after the deadline is not permitted

Scenario: Suppose a mobile phone operator sales scratch card for its customers. The customer buy it from shop and use it for buying minutes. Suppose you are the programmer in the company and you need to do the following to automate the process:

i)   Generate 1000 scratch cards each of 20-digit long

ii)   The card contains only numeric digits (0-9)

iii)   Three types of card available on minute basis: 40 min at Tk 50, 60 min at Tk. 70 and 100 min at Tk. 120

iv)   A card can be used for one time only

v)   After valid entry of card, the respective minutes is to be automatically added to the account of the existing minute of the respective mobile number

vi)   Three miss attempt for card entry lock the entry system for the respective mobile and only admin can unlock the system

vii)   Store each transaction in the history. The information of transaction includes: Scratch Number, Date, Time, Mobile Number and Minute.

viii)   The application begins with a login panel where user enters his/her login and password. Based on the login information, either a) Admin or b) User menu would appear

ix)   Display appropriate message when necessary

2. 0 The Admin Menu:

```
1.  New Card
2.  Delete Card
3.  Unlock Card
4.  History
5.  Statistics
6.  Search
7.  Exit
    Enter your option:
```

2.1 The snapshots of New Card Menu:

```
Enter your option: 1
How many cards and minute: 100  40
100 Cards Creation Successful
```

2.2 The snapshots of Delete Menu:

```
Enter your option: 2
Enter Card Number: 15463419090789043780
Card Deletion Successful
```

2.3 The snapshots of Unlock Menu:

```
Enter your option: 3
Enter Mobile Number: 01701870982
Card Unlock Successful
```

2.4 The snapshot of History Menu:

```
Enter your option: 4

Card No                  Date       Time   Minute  Mobile No
2345 4412 2347 3378 0909 12/8/2025  10:03  40      01708-987907
1145 4442 2748 3070 1204 14/8/2025  16:23  60      01701-112870
```

2.5 The snapshot of Statistics Menu:

```
Enter your option: 5

Total Cards Sold:    40 min: 65    60 min: 47    100 min: 12
Total Cards Remains:   40 min: 465    60 min: 647   100 min: 612
Total Amounts Sold in Tk.:   40 min: 30451    60 min: 51647   100 min: 54612
```

2.6 The snapshot of Search Menu:

```
Enter your option: 5
Enter Mobile Number: 01701870342

Card No                  Date       Time   Minute
2345 4412 2347 3378 0909 12/8/2025  10:03  40
1145 4442 2748 3070 1204 14/8/2025  16:23  60
Total Transactions: 2
```

3.0 The user menu

```
Enter Mobile Number: 01701870342
Enter Card Number: 23454128347337809092
Reload Successful
```