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Week 5 – Random Testing

For this document, you will need to fill out the information below. Ensure you have 5 triggering numbers for each bug or you will receive zero points for the bug. Your theory must fit the 5 provided numbers to receive any points. To receive full points, your theory must match the actual coded error, so you may need more than 5 data points for each bug to successfully determine the causes.

- **Bug 1**
  - o **Triggering credit card numbers (at least 5)**
    - 7535608046711737
    - 2061167135611664
    - 9384314510154038
    - 3695194567795440
    - 6799071167314740
  - o **Theory that explains what triggered the bug**
    - prefix: Invalid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)
    - length: Valid (16)
    - check digit: Invalid
    - This bug is caused by valid length 16-digit credit card numbers with both invalid prefixes and invalid check bits.
- **Bug 2**
  - o **Triggering credit card numbers (at least 5)**
    - 344441388510951
    - 344491031521491
    - 344445709063442
    - 344433309010005
    - 344417142500645
  - o **Theory that explains what triggered the bug**
    - prefix: Valid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)
    - length: Valid (15)

- check digit: Valid

- This bug is caused by valid length AMEX cards with valid check digits that begin with 3444.

- **Bug 3**
  - **Triggering credit card numbers (at least 5)**
    - 2265676189671145
    - 2485251074090019
    - 2668661219208947
    - 5145877660161635
    - 5569915167478313
  - **Theory that explains what triggered the bug**
    - prefix: Valid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)
    - length: Valid (16)
    - check digit: Valid
    - This bug is caused by valid length 16-digit credit card numbers with MasterCard prefixes and valid check bits that end in an odd digit.

- **Bug 4**
  - **Triggering credit card numbers (at least 5)**
    - 65395948372065
    - 55755538803055
    - 17026723287517
    - 56110458176956
    - 33123075381733
  - **Theory that explains what triggered the bug**
    - prefix: Invalid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)
    - length: Invalid (16) 14
    - check digit: Invalid
    - This bug is caused by 14-digit credit card numbers that begin and end with the same two digits

- **Bug 5**
  - **Triggering credit card numbers (at least 5)**

- 4496847724682726

- 5496381246850766

- 2468954422735257

- 2468240137736487

- 2468102430517636

- **Theory that explains what triggered the bug**

  - prefix: Valid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)

  - length: Valid (15, 16)

  - check digit: Valid

  - This bug is caused by valid Visa, MasterCard, or Amex credit card numbers with the sequence 2468 somewhere within the number.

- **Bug 6**
  - **Triggering credit card numbers (at least 5)**

    - 4074540403976515

    - 4879058358506515

    - 5153224326922515

    - 2641255201376515

    - 374144542758515

  - **Theory that explains what triggered the bug**

    - prefix: Valid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)

    - length: Valid (16)

    - check digit: Valid

    - This bug is caused by valid length 15- or 16-digit credit card numbers with valid prefixes and valid check bits that end with the digits 515.

- **Bug 7**
  - **Triggering credit card numbers (at least 5)**

    - 34567595789988297

    - 01239161393111847

    - 34560781638302

- 34561125742251

- 123434569212672

  o **Theory that explains what triggered the bug**

  - prefix: Valid/Invalid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)

  - length: Valid/Invalid mix (16)

  - check digit: Valid/Invalid mix

  - This bug is caused by credit card numbers with 4-digit sequential prefixes

- **Bug 8**
  o **Triggering credit card numbers (at least 5)**

  - 6721256767872743

  - 4141252561696929

  - 8165830707230185

  - 6585072907654945

  - 4703016107898341

  o **Theory that explains what triggered the bug**

  - prefix: Valid/Invalid (Visa: 4. MC: 51-55; 2221-2720. Amex: 34 or 37)

  - length: Valid (16)

  - check digit: Valid/Invalid

  - This bug is caused by 16-digit credit card numbers with an even prefix digit and an odd suffix digit.