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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**
  - **Triggering credit card numbers (at least 5)**
    - 3508974888387328
    - 3358544684891640
    - 1068175017617447
    - 9976738128805542
    - 6196612685128392
  - **Theory that explains what triggered the bug**
    - This bug is caused by credit card numbers that have 16 digits and valid check digits, but invalid prefixes.
- **Bug 2**
  - **Triggering credit card numbers (at least 5)**
    - 4052996530923455
    - 4052524140837095
    - 4052836035635198
    - 4052370134613252
    - 4052806507971637
  - **Theory that explains what triggered the bug**
    - This bug is caused by credit card numbers that begin with 4052, which are all valid 16-digit Visa numbers with valid prefixes and valid check digits.
- **Bug 3**
  - **Triggering credit card numbers (at least 5)**
    - 348287487374807
    - 349784773550289
    - 340978000170981
    - 372740730452753
    - 375201498638627
    - 375196061031103
  - **Theory that explains what triggered the bug**
    - This bug is caused by credit card numbers that begin with 34 or 37 and have odd check digits, which are all valid 15-digit American Express numbers with valid prefixes and valid check digits.
- **Bug 4**
  - **Triggering credit card numbers (at least 5)**
    - 4896872394174896
    - 4386349822194386

- - - 5582368648745582
    - 5126824560295126
    - 2665534957702665
    - 2293591166752293
  - **Theory that explains what triggered the bug**
    - This bug is caused by credit card numbers that have 16 digits and valid Visa or MasterCard prefixes, whose first four numbers are same as their last four numbers.
- **Bug 5**
  - **Triggering credit card numbers (at least 5)**
    - 4925938611116604
    - 4632111128517185
    - 5111156813647125
    - 5323111187573062
    - 2401683647111172
    - 2385841429961111
  - **Theory that explains what triggered the bug**
    - This bug is caused by credit card numbers that contain "1111", which are all valid 16-digit Visa or MasterCard credit card numbers with valid prefixes and valid check digits.