

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)**
 - 0002628577801323
 - 1239829385704039
 - 2220419721998211
 - 3083311010151988
 - 5087271375896489
 - **Theory that explains what triggered the bug**
 - Numbers with length of 16, invalid prefix, and a valid luhn will trigger the bug.
 - These numbers should be invalid numbers, but are returning True
- **Bug 2**
 - **Triggering credit card numbers (at least 5)**
 - 4052116608035914
 - 4052191310051335
 - 4052219683223163
 - 4052627622466059
 - 4052497396811637
 - **Theory that explains what triggered the bug**
 - Numbers with length of 16, valid Visa prefix - 4 -, and a valid luhn trigger the bug.
 - Numbers should be valid Visa Credit Card Number, i.e. True, but are returning False.
- **Bug 3**
 - **Triggering credit card numbers (at least 5)**
 - 349782294789477
 - 347619120083539
 - 370007238786799
 - 370580272212229
 - 379981180978391
 - **Theory that explains what triggered the bug**
 - Numbers with an AMEX prefix, a valid length, and a valid luhn will trigger the bug.
 - Numbers should be True, but are returning False.
- **Bug 4**
 - **Triggering credit card numbers (at least 5)**
 - 2720226185552720 (invalid luhn) (MC)
 - 3673891187253673 (invalid luhn) (N/A)
 - 4294817541984294 (valid luhn) (Visa)
 - 4782294338644782 (invalid luhn) (Visa)
 - 5537625696475537 (valid luhn) (MC)

- **Theory that explains what triggered the bug**
 - Length of 16
 - Valid MC prefix, valid and invalid luhn
 - Valid Visa prefix, valid and invalid luhn
 - Prefix of 36 (edge case for Amex), invalid length, invalid luhn
- **Bug 5**
 - **Triggering credit card numbers (at least 5)**
 - 2221111097129500 (MC) (valid luhn) (16)
 - 371552584911110 (AMEX) (valid luhn) (15)
 - 379448011114406 (AMEX) (valid luhn) (15)
 - 379111122332917 (AMEX) (valid luhn) (15)
 - 4111155897964987 (VISA) (valid luhn) (16)
 - 5166189712861111 (MC) (valid luhn) (16)
 - 5582067461111308 (MC) (valid luhn) (16)
 - **Theory that explains what triggered the bug**
 - Credit Card numbers with valid lengths, valid prefixes, and valid luhns appear to trigger the bug.