

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)**

- 1786460103932236
 - 9683165663431498
 - 3656338427999136
 - 3082980203940661
 - 9147627000073499
 - 5670223479178960
 - 9467014681010862

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

- This bug is caused by credit card numbers that begin with prefixes which does not include in any card company, have 16 digits, and valid check bits. Thus, the bug is caused by 16-digit numbers which have valid check bits, and does not fulfill the prefix condition of Visa credit card and MasterCard credit card.

- **Bug 2**

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

- 4052861868272240
 - 4052103171605562
 - 4052075048208467
 - 4052680878524642
 - 4052935440148324
 - 4052489150243347

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

- This bug is caused by credit card numbers that begin with 4052, have 16 digits, and valid check bits. Therefore, the bug is caused by valid Visa credit card numbers starting with 4052.

- **Bug 3**

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

- 371079769092599
 - 378064870279379
 - 346365956408025
 - 344067841445673
 - 341286779507493
 - 349503978100439
 - 347298695057101

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

- This bug is caused by credit card numbers that fulfill the condition of American Express card, and the product of 3. Thus, the bug is caused by valid American Express credit card numbers which are product of 3.

- **Bug 4**

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

- 4260894538524260
 - 4002802451934002
 - 4621736318924621
 - 4209007690424209
 - 4745365715334745
 - 4261730977164261
 - 4068730092234068
 - 4529351277634529
 - 4870381682214870
 - 4400202726454400
 - 4663074697494663
 - 4533537786724533
 - 4387992241004387

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

- This bug is caused by credit card numbers that begin with 4, have 16 digits, and invalid or valid check bit. Therefore, this bug is caused by any 16-digit numbers starting with 4.

- **Bug 5**
 - **Triggering credit card numbers (at least 5)**
 - 373763693111140
 - 4870816446111179
 - 4525111160226703
 - 4037415222391111
 - 4931181111178541
 - 4644140111178511
 - 4795958811114982
 - 4478111174089748
 - 4968549797091111
 - 4033331911113886
 - 4613000067311119
 - **Theory that explains what triggered the bug**
 - This bug is caused by credit card numbers that satisfies the condition of Visa credit card and American Express credit card. Thus, the bug is caused by the valid Visa credit card number and American Express credit card number.