From the jUnit test, we have seen that one of the tests has failed. The reason for the failure is the presence of “8.8” in the string array, called invalidNumericAddresses. This array should contain invalid numeric values for testing purposes. Theoretically, 8.8 is an invalid numeric address for IPv4 because it should contain 4 parts. However, due to certain bugs in our program, it is considered valid.

**if** (!valid) {

**if** (parts.length >= 2) {

valid = **true**;

**for** (String part : parts) {

**if** (part.length() < 2) valid = **false**;

}

}

}

The error occurs in this part of our code because we should only have symbolic addresses with characters and not with numbers. As mentioned above, IPv4 should have 4 parts, the numeric values must always have 4 parts to be a valid web address. But we forgot to make sure that this part of the code can only contain characters. As a result, values like “8.8” would be displayed as valid in our program. Although a web address like “google.com” is valid and displayed as correct by this code. The problem was that we forgot that numbers are not allowed here.

In conclusion, software testing and verification are always important as we can always run into errors we never imagined.