

# Quiz 7

1. **Use NIST SP 800-221 test suite to find a random number generator can pass all of test and guarantee cryptographical secure.**

<https://csrc.nist.gov/Projects/Random-Bit-Generation/Documentation-and-Software>.

**EXTRA CREDIT** Use AIS-31 test suite to test a random number generator.

[https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/Zertifizierung/Interpretationen/AIS\\_31\\_testsuit\\_zip.zip](https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/Zertifizierung/Interpretationen/AIS_31_testsuit_zip.zip)

2.

- 1)What is the probability of 2 people having the same birthday X?
  - 2)What is the probability of 3 people having the same birthday Y?
  - 3)What is the probability of 4 people having the same birthday Z?
  - 4)If there are 50 students in classroom, what is the probability that 2 of them have the same birthday?
- Supposing a year has 365 days.