Important Notes

➢ You can use any programming language.
➢ Copy code from internet and GitHub, GitLab, ... prohibited.
➢ Project must have report.
➢ Explain code in report, add screenshot from running project.
➢ Report must be submitted in typed form. Submitting a photo of the manuscript is not acceptable.
➢ For each day of delay in submitting, 20% of the exercise grade will be deducted. After 5 days, no grade will be awarded for the exercise.
➢ If you have any questions about the exercises, you can ask them in the Telegram group.
➢ If cheating is observed, action will be taken in accordance with educational rules.
➢ The output of the exercise must be a pdf file, with name *ACN-Pro1#-Name-STID.pdf* like this one *ACN-Pro1-RezaMohammadi-40200123.pdf*. Please name the rest of the items same manner and send it along with pdf file.

Part 1. CRC32

What is CRC32? And how it detect packet errors.

Part 2. Implement CRC32

Write a program that can calculate CRC32 code for string of 0,1. String length wary from 10-64 bit.

Part 3. Test CRC32

Write a test program.

Give multi string of bits calculate CRC32 code for each one.

Change random bits in strings (Error simulation).

CRC32 can detect these errors?

　　　　o   3-bit error

- 5-bit error
- 10-bit error
- 32-bit error

Test and report results.