

Instructions.

Complete the exercises and write your solutions on the papers. Comment your solutions sufficiently. **A result alone without the solution is insufficient.** Submit your solutions to the assignment "NIE-AIB, Homework 1" no later than October 13 via MS Teams.

1 Exercise.

Let us consider a sequence of length $n = 180$, for instance

```
11001010000110111000010101111100000000001001011000011101110  
011011001100100100111100100001111011001011111101101110100001  
001100111100100111101000001100101110001011101101011010000010.
```

1. Apply Frequency test.
2. Apply Serial test.
3. Apply Runs test.
4. Apply Autocorrelation test, using $d = 8$.