

AD2_Assignment01_AI_TUESDAY_Frohmann.pdf

Donnerstag, 21. Oktober 2021 10:20



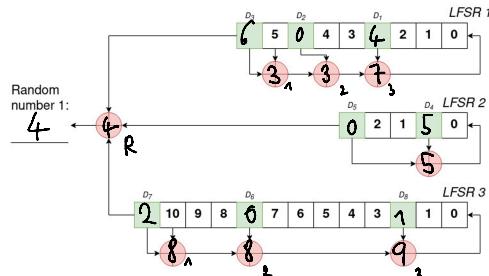
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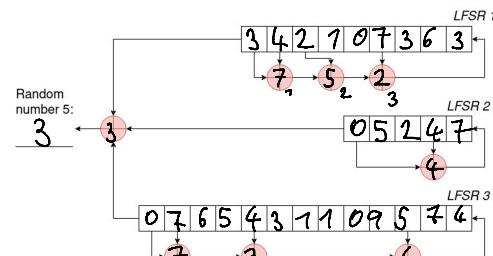
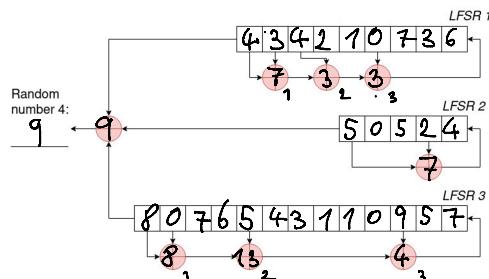
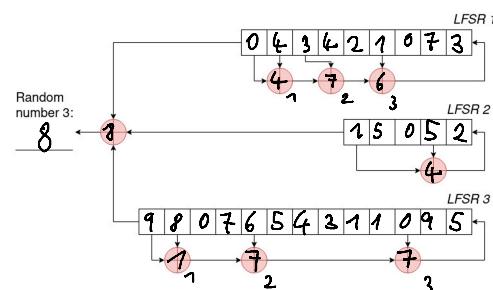
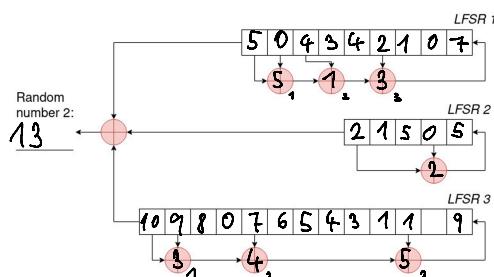
Algorithms and Data Structures 2
Winter term 2021

Assignment 01

Deadline: Tue 2.11.2021, 23:59
Submission via: Moodle



Your student ID:
12005604
↓
 $D_8 \quad D_7 \quad D_6 \quad D_5 \quad D_4 \quad D_3 \quad D_2 \quad D_1$



4 13 8 9 3

next pages: side calculations
only

1.)

LFSR1

Bit #	8	4	2	1	
6	0	1	1	0	
5	0	1	0	1	
\oplus_1	0	0	1	1	3
0	0	0	0	0	
\oplus_2	0	0	1	1	3
4	0	1	0	0	
\oplus_3	0	1	1	1	7

LFSR2

	8	4	2	1	
0	0	0	0	0	
5	0	1	0	1	
\oplus	0	1	0	1	5

LFSR3

	8	4	2	1	
2	0	0	1	0	
10	1	0	1	0	
\oplus_1	1	0	0	0	8
3	0	0	0	0	
\oplus_2	1	0	0	0	8
7	0	0	0	1	
\oplus_3	1	0	0	1	9

R1

	8	4	2	1	
6	0	1	1	0	
0	0	0	0	0	
2	0	0	1	0	
\oplus_R	0	1	0	0	4

2.)



LFSR1

	8	4	2	1	
5	0	1	0	1	
0	0	0	0	0	
\oplus_1	0	1	0	1	5
4	0	1	0	0	
\oplus_2	0	0	0	1	1
2	0	0	1	0	
\oplus_3	0	0	1	1	3

LFSR2

	8	4	2	1	
2	0	0	1	0	
0	0	0	0	0	
\oplus_1	0	0	1	0	2

LFSR3

	8	4	2	1	
10	1	0	1	0	
9	1	0	0	1	
\oplus_1	0	0	1	1	3
7	0	1	1	1	
\oplus_2	0	1	0	0	4
1	0	0	0	1	
\oplus_3	0	1	0	1	5

R₂

	8	4	2	1	
5	0	1	0	1	
2	0	0	1	0	
10	1	0	1	0	
\oplus	1	1	0	1	13

3.)



[LFSR1]

	8	4	2	1	
0	0	0	0	0	
4	0	1	0	0	
\oplus_1	0	1	0	0	
3	0	0	1	1	
\oplus_2	0	1	1	1	
1	0	0	0	1	
\oplus_3	0	1	1	0	

4

7

6

[LFSR2]

$$\begin{array}{r}
 & 8 & 4 & 2 & 1 \\
 1 & 0 & 0 & 0 & 1 \\
 5 & 0 & 1 & 0 & 1 \\
 \hline
 \oplus & 0 & 1 & 0 & 0
 \end{array} \quad . \quad 4$$

[LFSR3]

	8	4	2	1	
9	1	0	0	1	
8	1	0	0	0	
\oplus_1	0	0	0	1	
6	0	1	1	0	
\oplus_2	0	1	1	1	
\oplus_3	0	1	1	1	

1

7

7

[R₃]

	8	4	2	1	
0	0	0	0	0	
1	0	0	0	1	
9	1	0	0	1	
\oplus	1	0	0	0	

8

4.)



LFSR 1

	8	4	2	1	
4	0	1	0	0	
3	0	0	1	1	
\oplus_1	0	1	1	1	7
4	0	1	0	0	
\oplus_2	0	0	1	1	3
0	0	0	0	0	
\oplus_3	0	0	1	1	3

LFSR 2

	8	4	2	1	
5	0	1	0	1	
2	0	0	1	0	
\oplus	0	1	1	1	7

LFSR 3

	8	4	2	1	
8	1	0	0	0	
0	0	0	0	0	
\oplus_1	1	0	0	0	8
5	0	1	0	1	
\oplus_2	1	1	0	1	13
9	1	0	0	1	
\oplus_3	0	1	0	0	4

R4

	8	4	2	1	
4	0	1	0	0	
5	0	1	0	1	
8	1	0	0	0	
\oplus	1	0	0	1	9

5.)

LFSR₁

	8	4	2	1	
3	0	0	1	1	-)
4	0	1	0	0	
\oplus_1	0	1	1	1	7
2	0	0	1	0	5
\oplus_2	0	1	0	1	2
7	0	1	1	1	
\oplus_3	0	0	1	0	

LFSR₂

	8	4	2	1	
0	0	0	0	0	
4	0	1	0	0	
\oplus	0	1	0	0	4

LFSR₃

	8	4	2	1	
0	0	0	0	0	
7	0	1	1	1	
\oplus_1	0	1	1	1	7
4	0	1	0	0	
\oplus_2	0	0	1	1	3
5	0	1	0	1	
\oplus_3	0	1	1	0	6

R₅

	8	4	2	1	
3	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
\oplus	0	0	1	1	3